National Controls, Inc.

A subsidiary of

SCOPE Incorporated

MODEL 5835 & 5835W COUNTING SCALE
INSTALLATION MANUAL

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TITLE

MODEL 5835 & 5835W COUNTING SCALE INSTALLATION MANUAL

National Controls, Inc.

DWG. NO. 8424-00074

DATE 3/17/80

APPD. G. Anderson

STANDARD SCALE WARRANTY

NCI

NCI equipment is warranted from the date of shipment to the original user against defects in workmanship and material. This warranty is limited to replacement of defective parts and applies for the following periods:

ONE (1) YEAR for the mechanical scale base, levers and flexures.

ONE (1) YEAR for the electronic digital display and electronic load cell.

GENERAL CONDITIONS:

Faulty equipment, mechanical or electronic, will be repaired or replaced, providing equipment owner agrees to pay all service technician traveling expenses from the nearest NCI authorized service station, or returns equipment to Santa Rosa, California, freight prepaid, at the discretion of NCI.

In the event of highly corrosive or washdown type applications, special protective coatings or materials such as galvanizing, epoxy coatings, or stainless steel construction may be recommended, which if not followed and maintained, may void this warranty.

This warranty shall not apply to damages resulting from improper installation on the part of anyone other than NCI authorized personnel, nor shall it apply to any machine which has been subject to accident, alterations or misuse.

This warranty shall not apply to accessory equipment not manufactured by NCI and constitutes NCI's entire and only warranty; there being no other warranties express or implied in law or in fact including implied warranties of fitness or merchantability.

National Controls, Inc.

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Tel. 707/527-5555

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TABLE OF CONTENTS

PAGE

SECTION I - INSTALLATION

1.1 Weigh Platter. 1
1.2 Power Cord 1
1.3 About the Battery. 2
1.4 Battery Replacement. 2

SECTION II - OPERATION

2.1 Turning the Scale On 3
2.2 Mode Selection 3
2.3 Sample Size Selection. 4
2.4 Bulk Load Counting 5
2.5 Counting an Unknown Quantity 6
2.6 Counting a Known Quantity. 6
2.7 Turning the scale OFF. 6
2.8 Minimum Sample Size and Accuracy Criteria. 7-10

National Controls, Inc
A subsidiary of
SCOPE Incorporated
MODEL 5835W
COUNTING SCALE
COUNT
25
lb
kg
ON/ZERO
SAMPLE
COUNT
PRINT
WEIGH
LOW BATTERY

1.0 INSTALLATION

1.1 INSTALL THE WEIGHING PLATTER

10 lb and 4 kg scales:

1) Insert the weighing platter with the flat side of the shaft to the rear of the console.

2 lb scales: Place platter in scale.

All others:

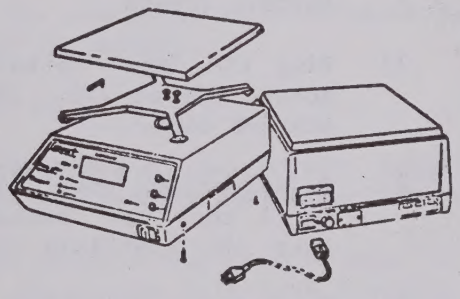
1) Install the load bridge spacer, aligning the holes in the spacer to the holes in the load cell.

2) Refer to the diagram and install the load bridge.

3) Insert the two mounting screws and tighten with the hex key.

◆ CAUTION: To protect the load cell while removing or installing the load bridge, use one hand on the outside corner of the load bridge. This relieves extreme torque on the load cell when loosening or tightening the load bridge mounting screws.

4) Install the platter.



1.2 INSTALL THE POWER CORD

1) Connect the power cord to the connector in the rear of the scale console.

2) Plug the power cord into an AC power source.

◆ CAUTION: The AC power source must provide an earth ground for the scale chassis to ensure safe and proper operation.

3) The scale is ready for operation.

NOTE: This scale can be operated from 115V/230V (+ 10,-15%) 50/60 Hz AC power source or from the battery contained within the scale. The AC power source must be capable of supplying 10 watts. It is recommended that the scale be plugged into an AC power source when not in use; this will conserve the life of the battery.

1.3 ABOUT THE BATTERY

1) Under normal operating usage the life of the battery is estimated at 1 1/2 to 3 years.

2) To maximize the life of the battery and to prevent the loss of calibration data, plug the scale power cord into an AC power source to recharge the battery:

   a. when the scale is not in use

   b. at the end of each working day

   c. when stored (if practical)

   d. every 6 months when stored (if not plugged in)

3) Check the battery charger before installing a new battery, refer to Service Manual.

1.4 HOW TO REPLACE THE BATTERY WITHOUT LOSING CALIBRATION DATA

1) Remove the platter, load bridge, and scale cover.

2) There are two connectors (J4 & J5) on the Digital Control & Power Supply board that are connected in parallel as battery inputs.

3) Plug the "new" battery cable into the auxiliary (empty) socket (J4 or J5). This will eliminate any loss of calibration data.

4) Do not unplug the "old" battery cable from the motherboard until the "new" battery cable has been securely plugged into the auxiliary battery socket on the mother board.

5) Unplug the "old" battery cable from the mother board.

6) This procedure will prevent the loss of calibration data.

7) Remove the four nuts securing the battery to the scale base.

8) Remove the battery mounting brackets and the "old" battery.

9) Install the "new" battery and the battery mounting brackets.

10) Install the four nuts and tighten to secure the battery.

11) Assemble the scale.

2.0 OPERATION

2.1 TURN ON THE SCALE

1) Press the ON/ZERO button. The scale display will count down from "99999" to "11111", the "zero" indicator will come on, and the scale will display +5.

   NOTE: If the "low battery" indicator comes on, or the scale will not turn on when the ON/ZERO button is pressed; it is because the battery needs to be charged. At this time the scale should be plugged into an AC power source for approximately 14 hours to completely charge the battery.

2) If the scale has been off in excess of 1 hour, allow a 5 minute warm-up period before using.

3) When the "zero" indicator is not on and stable, press the ON/ZERO button and verify the "zero" indicator is on before proceeding. The scale will display "·····" whenever it is in the zero process.

4) Place the bulk container (if used) on the weighing platter and press the ON/ZERO button. The "zero" indicator will be on and the weight of the container is zeroed out for subsequent operations.

   NOTE: The weight of the container will decrease the full load capacity of the scale.

2.2 MODE SELECTION (Model 5835W Only)

1) The Model 5835W has two modes of operation: Counting and Weighing. These modes are selectable to meet your needs.

2) The COUNT/WEIGH button selects the desired mode of operation. The scale mode alternates with each pressing of the button.

3) The COUNT mode is activated when the "count" (front panel) indicator is on.

4) The COUNT mode is automatically selected when the SAMPLE button is pressed, see para. 2.3.

5) The WEIGH mode is activated when the "lb" or "kg" (front panel) indicator is on.

   a. lb/kg - Conversion of the weighing units (lb/kg) is made by changing the position of the LB/KG switch located on the rear panel of the scale.

b) The WEIGH mode is useful in determining an accurate weight of a sample or bulk load. The weight of a sample will determine the accuracy of the count, refer to Figure 2-1. The scale can be switched between count and weight modes without affecting the sample information.

2.3 SELECT A SAMPLE SIZE

1) Press the SAMPLE button to select the desired sample size. Each successive pressing of the SAMPLE button will select a sample size that is displayed as "+5, +10, +25, +50 or +100". The number displayed is the "number of pieces" to be placed on the platter as a sample all at one time. DO NOT COUNT THE SAMPLE OUT ONTO THE SCALE PLATTER. The display will blank until the sample is accepted or rejected.

2) A "sufficient" sample placed on the platter is indicated by:

   a) The selected sample size is displayed as count "5, 10, 25, 50 or 100".

   b) The front panel indicator "place bulk load on platter" is on.

3) An "insufficient" sample placed on the platter is indicated by:

   a) Displayed dashes " - - - - - ".

   b) The front panel indicator "remove insufficient sample" is on.

4) If an "insufficient" sample is indicated:

   a) Remove the sample from the platter.

   b) The minimum number of pieces required for a "sufficient" sample size is then displayed. This sample size is calculated at .1% of the scale capacity and can not be greater than 255.

   c) Manually count the number of pieces displayed and place them on the scale platter all at one time. DO NOT COUNT THE SAMPLE OUT ONTO THE SCALE PLATTER.

   d) Note that the sample size has been accepted and the scale is now ready to count the parts in a bulk load.

   e) Remove the sample and place the bulk load on the platter.

5) Flashing dashes"-----" are displayed when the calculated number of pieces required for a "sufficient" sample size is greater than 255. Press the SAMPLE button to return the scale to the last sample size. The piece weight is too small for that capacity of scale.

2.4 BULK LOAD COUNTING

1) The front panel indicator "place bulk load on platter" must be on before attempting to obtain a count of the bulk load.

2) If a container is to be used to hold the bulk load, place the empty container on the scale and press the ON/ZERO switch to tare the container.

3) Place the bulk load to be counted as close as possible to the center of the scale platter.

4) The number of pieces of the bulk load will then be displayed. Record the number of pieces and remove the bulk load.

5) Repeated lots may be counted without resampling.

6) Optimum performance will be achieved if the scale platter is not loaded for extended periods. Place the items to be counted on the platter, record the reading and remove the load.

7) Overload is indicated by upper dashes " - - - - - ".

8) Negative count limit, "-9,999", is indicated by lower dashes " _ _ _ _ _ ".

Note: Model 5835W (only)

1) You may at any time obtain the weight of the item on the scale.

2) If the scale has accepted a sample, press COUNT/WEIGH. This will switch the scale to the WEIGHT mode. The weight of the sample in LBS or KG (depending on the rear panel switch) will be displayed. Pressing COUNT/WEIGH again, will switch back to the COUNT mode and you may continue with your count session.

3) If a bulk load is on the platter, press COUNT/WEIGH to read the weight of the bulk load. Pressing COUNT/WEIGH again will switch back to the COUNT mode.

2.5 COUNTING AN UNKNOWN QUANTITY

1) Press the SAMPLE button. Scale will respond with the last sample size used. If sample size is not appropriate to this operation, repeat pressing SAMPLE button until proper sample size appears.

2) Place the entire sample on the scale platter at one time. If the sample is "insufficient" refer to step 4 of 2.3.

3) Remove the sample

4) Place the empty bulk container on the scale and press the ON/ZERO button.

5) Load the bulk container with the unknown quantity.

6) Read the quantity of pieces.

2.6 COUNTING A KNOWN QUANTITY

1) Press the SAMPLE button.

2) Place the entire sample on the scale platter at one time. If the sample is "insufficient" refer to step 4 of 2.3.

3) Remove the weight.

4) Place the empty container on the scale and press the ON/ZERO button.

5) Add pieces to the bulk container until the quantity desired is displayed.

2.7 TURNING THE SCALE OFF

1) The scale will automatically go into the "sleep mode" when not used in excess of 10 minutes if the scale power cord is not plugged into an AC power source. During the "sleep mode" the display and indicators are off to conserve battery life. Normal operation can be restored by pressing the ON/ZERO button.

2) The scale can be turned off at any time by pressing the momentary switch at the lower right corner of the scale.

3) The scale will automatically turn itself off (after approximately 30 minutes) if the "low battery" indicator comes on and the scale power cord is not plugged into an AC power source to recharge the battery. Allow approximately 14 hours to completely recharge the battery. The scale can be used during the recharge cycle with a slight extension of recharge time required.

2.8 MINIMUM SAMPLE SIZE AND ACCURACY CRITERIA

There are three principal sources of accuracy criteria in counting from a weighed sample, they are:

1) Instrumental accuracy of the scale.
2) Accounting for container weight.
3) Variation in the weight of the parts.

This accuracy is maximized by using a "suitably large" sample size, and this section is to help you determine "suitably large" for your situation.

1) Instrumental Accuracy of the Scale (Refer to Figure 2-1)

The scale is programmed to reject samples weighing less than or equal to .08% of scale capacity. This restriction insures that instrumental accuracy will be greater than 97% on a well-maintained scale.

Rejection of the sample is indicated by the scale continuing to display " - - - - - " and the "remove insufficient sample" indicator is on. A minimum sample size is calculated at .1% of scale capacity (98% accuracy) and displayed when the rejected sample is removed.

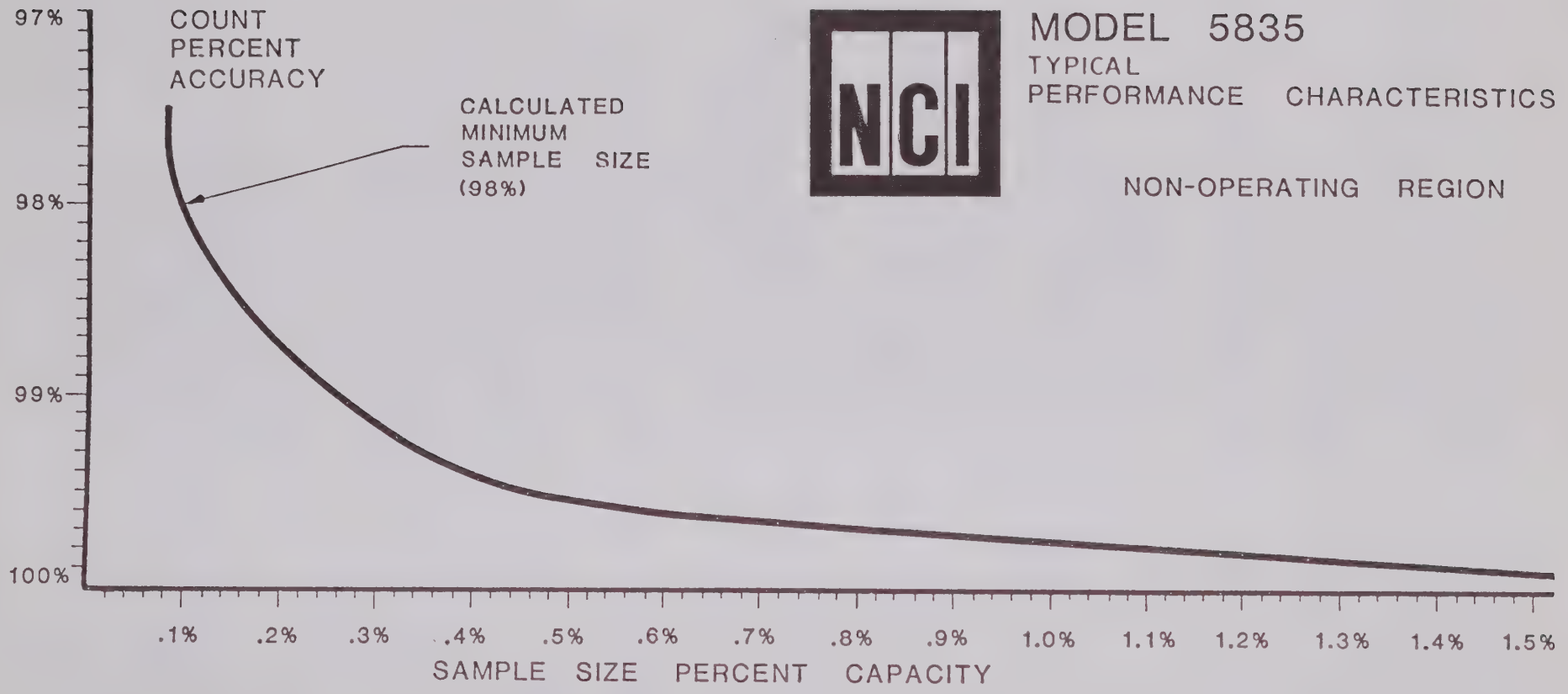
Instrumental accuracy will be greater than 99.5% when sample weight exceeds 0.5% of scale capacity. So that when a calculated sample size of .1% is displayed simply multiply the sample size by 5 to achieve greater than 99.5% accuracy, refer to graph Figure 2-1.

The instrumental counting accuracy is determined by the weight of the sample and is expressed as a percentage of scale capacity. Figure 2-1 illustrates the instrumental accuracy of the Model 5835W Counting Scale. When a specific counting accuracy is desired this graph can be used to indicate the required weight of a sample. Example: You want to achieve 99% instrumental accuracy. Follow the 99% point on the vertical axis straight across until intersecting the curve. Then go straight down to the horizontal axis. The point of intersection at the horizontal axis is .26%. So to achieve a 99% instrumental accuracy you must use a sample that weighs .026 lb on a 10 lb scale, or .13 lb on a 50 lb scale.

2) Accounting for Container Weight

Bulk containers of different weight may be changed in mid-operation without re-establishing the sample. Simply place the empty new container on the scale platter and press the ON/ZERO button. The "zero" indicator will light when the new container has been zeroed out.

NOTE: The weight of the container will decrease the full load capacity of the scale.



SCALE CAPACITY — TOTAL WEIGHT OF SAMPLE (LB)

% CAP	.1%	.2%	.3%	.4%	.5%	.6%	.7%	.8%	.9%	1.0%	1.1%	1.2%	1.3%	1.4%	1.5%
10LB	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15
25LB	.025	.05	.075	.10	.125	.15	.175	.20	.225	.25	.275	.30	.325	.35	.375
50LB	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75
100LB	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.00	1.10	1.20	1.30	1.40	1.50
2 LB	.002	.004	.006	.008	.010	.012	.014	.016	.018	.02	.022	.024	.026	.028	.030

FIGURE 2-1

3) Variation in Weight of Parts (Refer to Figure 2-2)

As you select a larger sample, you have the opportunity to select some heavier and some lighter parts so that, as the sample size increases, the average pieceweight of the sample comes closer to the average pieceweight of the uncounted lot. The resulting count thus becomes more reliable.

This illustrates two facts about selecting a sample size:

- As your desire for accuracy increases, so must your sample size.

- As the uniformity of the parts DECREASES, your sample size must INCREASE to maintain a given level of accuracy.

While a large sample size seems to cure all ills, there are good reasons for not selecting a sample size larger than necessary;

- Manual counting errors will occur more frequently when counting out larger samples.

- Time will be wasted in unnecessary manual counting.

With some knowledge of the typical variance of classes of your parts, and a decision on the accuracy you require in the count, the following curves in Figure 2-2 will allow you to select a suitable sample size

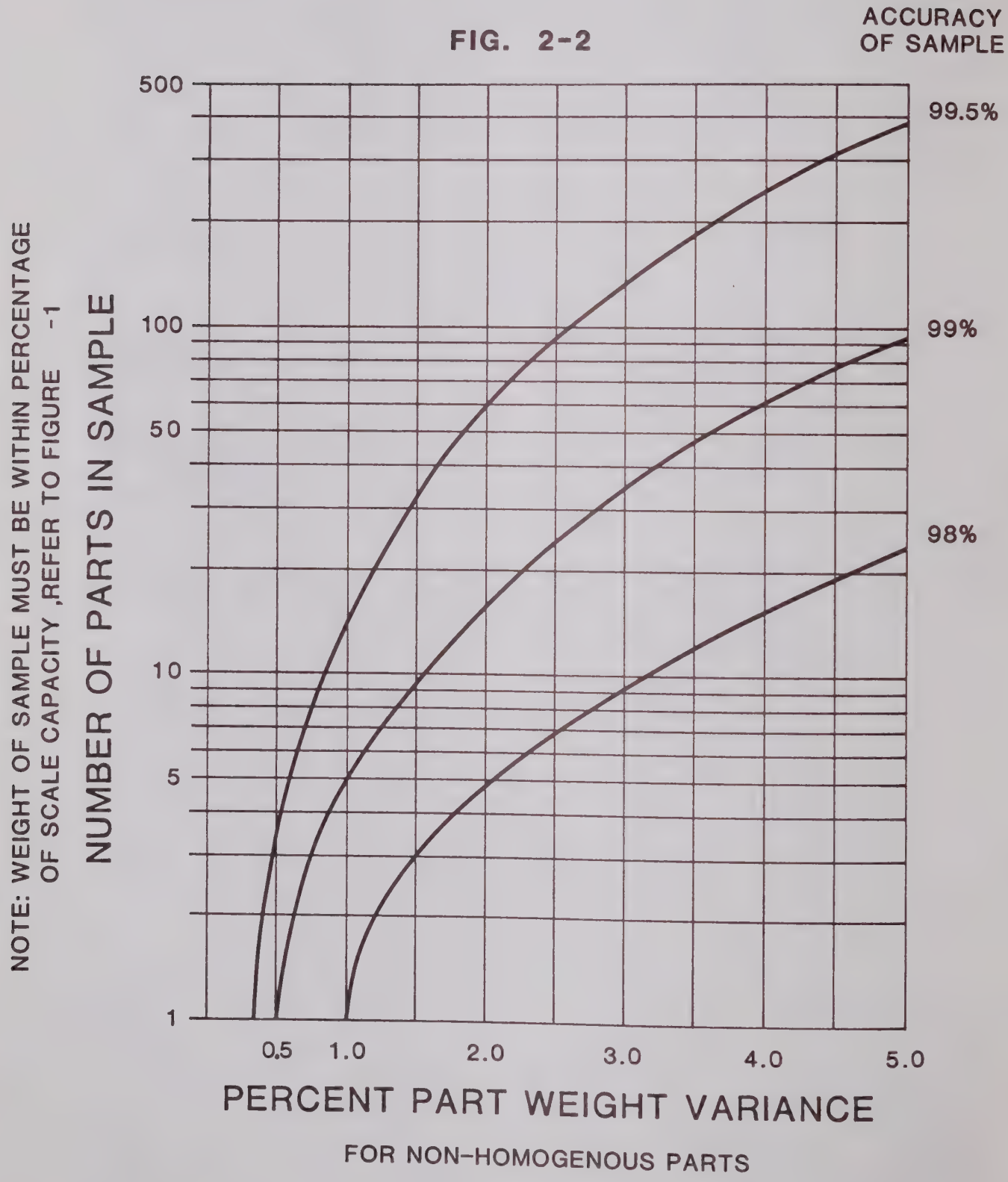
1. Decide whether you need an accuracy of 99.5%, 99% or 98%, and select the correct curve accordingly.

2. Read across the horizontal scale to choose the typical value for part weight variance.

3. Follow straight up to the selected curve, and across to the vertical scale. Read the number of parts in the sample.

FINDING SAMPLE SIZE

FIG. 2-2



"This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and TV reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of F.C.C. Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or TV reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— reorient the receiving antenna
— relocate the computer with respect to the receiver
— move the computer away from the receiver
— plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/TV technician for additional suggestions. The user may find the following booklet prepared by the F.C.C. helpful: 'How to Identify and Resolve Radio-TV Interference Problems'. This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4."

REVISIONS

LETTER	SHEET	DESCRIPTION	ECO	DATE	APPD.
A	1-55	ORIGINAL ISSUE	——	2-1-80	Don Rice
B	1-80	ADDED 5835W	1263	6-24-80	Ron O.
C	ALL	REVISE AND REISSUE	1780	3/30/81	Don Rice

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TITLE

MODEL 5835 AND 5835W COUNTING SCALE
MAINTENANCE MANUAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated ©

DWG. NO. 8424-00066

DATE 2-1-80

APPD. Ron Oberlin

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This warranty shall not apply to accessory equipment not manufactured by NCI and constitutes NCI's entire and only warranty; there being no other warranties express or implied in law or in fact including implied warranties of fitness or merchantability.

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TABLE OF CONTENTS

PAGE

SECTION I - INSTALLATION

1.1 Install the Weighing Platter 1
1.2 Install the Power Cord 1
1.3 Grounding 2
1.4 Shipment 2
1.5 Model 5835/5835W Scale Specifications 3

SECTION II - OPERATION

2.1 Turn on the Scale 4
2.2 Mode Selection 4
2.3 Select a Sample Size 5
2.4 Bulk Load Counting 6
2.5 Using the Label printer with the Model 5835/5835W 6
2.6 Counting an Unknown Quantity 7
2.7 Counting a Known Quantity 7
2.8 Turning the Scale Off 7
2.9 Minimum Sample Size and Accuracy Criteria 8-11

SECTION III - PRINTER INTERFACE

3.1 Printer Interface Specifications 12,13
3.2 Printer Interface Installation 14

SECTION - IV - CALIBRATION

4.1 General Preparations 15-17
4.2 Preliminary Adjustments 18
4.3 Final Calibration 19,20
4.4 Accuracy Test 20
4.5 Overload Adjustments 21

SECTION V - SERVICE

5.1 External Checks 22
5.2 Simple Internal Checks 22,23
5.3 Isolating Faulty Sub-Assembly 23,24
5.4 Battery Information 25-27
5.5 Conversions 28,29
5.6 Servicing Notes 30

SECTION VI - APPENDIX

Index to Appendix 31,32
Appendix 33-81

1.1 INSTALL THE WEIGHING PLATTER

10 lb and 4 kg scales:

1) Insert the weighing platter with the flat side of the shaft to the rear of the console.

2 lb scales: Place platter in scale.

All others:

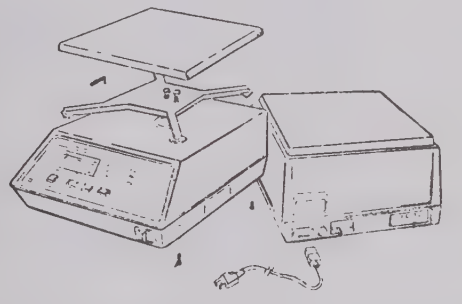
1) Install the load bridge spacer; aligning the holes in the spacer to the holes in the load cell.

2) Refer to the diagram and install the load bridge.

3) Insert the two mounting screws and tighten with the hex key.

CAUTION: To protect the load cell while removing or installing the load bridge, use one hand on the outside corner of the load bridge. This relieves extreme torque on the load cell when loosening or tightening the load bridge mounting screws.

4) Install the platter.



1.2 INSTALL THE POWER CORD

1) Connect the power cord to the connector in the rear of the scale console.

2) Plug the power cord into an AC power source.

CAUTION: The AC power source must provide an earth ground for the scale chassis to ensure safe and proper operation.

3) The scale is ready for operation.

NOTE: This scale can be operated from 115V/230V (+ 10,-15%) 50/60 Hz AC power source or from the battery contained within the scale. The AC power source must be capable of supplying 10 watts. It is recommended that the scale be plugged into an AC power source when not in use, this will conserve the life of the battery.

1.3 Grounding

POWER RECEPTACLE GROUNDING MUST MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE © 1977.

250-51 Effective Grounding Path. The path to ground from circuits, equipment and conductor enclosures shall:

(a) Be permanent and continuous.

(b) Have capacity to conduct safely any fault current likely to be imposed on it.

(c) Have sufficiently low impedance to limit the voltage to ground and to facilitate the operation of the circuit protective devices in the circuit.

250-59 Cord- and Plug-Connected Equipment. Noncurrent-carrying metal parts of cord- and plug-connected equipment, where required to be grounded, shall be grounded by one of the methods indicated in (a), (b), or (c) below.

(b) By means of grounding a conductor run with the power supply conductors in a cable assembly or flexible cord properly terminated in grounding-type attachment plug with one fixed grounding contact. An uninsulated grounding conductor shall be permitted but, if individually covered, the covering shall have a continuous outer finish that is either green or green with one or more yellow strips.

Exception: A self-restoring grounding contact shall be permitted on grounding-type attachment plugs used on the power supply cord of portable hand-held, hand-guided, or hand supported tools or appliances.

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1.4 Shipment

NOTICE: This scale should be serviced by personnel authorized by NATIONAL CONTROLS, INC. In the event service is required, consult your local NATIONAL CONTROLS, INC. representative. If the equipment is to be shipped to a NATIONAL CONTROLS, INC. Service Office for service or repair, attach a tag showing owners name and address, complete instrument model and serial numbers, and a description of the service required RETURN THE EQUIPMENT TO YOUR DISTRIBUTOR FOR SHIPMENT TO NCI.

1.5 MODEL 5835/5835W COUNTING SCALE SPECIFICATIONS

General

This specification describes the Model 5835/5835W Counting Scale. The Model 5835/5835W was designed for portable battery operation and ease of use. The Model 5835/5835W is intended for counting applications/weighing applications where battery operation and low cost are important.

Housing

1) Structural Foam 15 1/2" x 18" x 7 1/2".

2) Weight approximately 26.5 lb.

3) Weighing platform size 12" x 14" (10 lb capacity = 7" x 8"; 2 lb capacity = 3 3/4 Diameter).

Power

1) 115/230 VAC + 10%, -15%.

2) 50Hz/60Hz 10 watts maximum.

3) Power receptacle. When connected will charge batteries and allow the scale to operate from the power lines indefinitely. When disconnected, scale will run from internal battery.

Battery

1) Operating range: -10°C to 40°C @ 95% R. H.
(14°F to 104°F)

2) Storage time: 1 year @ -10°C to 40°C
(14°F to 104°F)

Battery Operation

1) Maximum run time: 4 hours continuous (8 hours normal operation with 50% use cycle).

2) Maximum charge time: 14 hours.

3) When battery runs down scale turns itself off, indicates low battery.

4) Estimated battery life under normal use: 1.5 years.

NOTE: If the "low battery" indicator comes on, or the scale will not turn on when the ON/ZERO button is pressed; it is because the battery needs to be charged. At this time the scale should be plugged into an AC power source for approximately 14 hours to completely charge the battery.

2.1 TURN ON THE SCALE

1) Press the ON/ZERO button. The scale display will count down from "99999" to "11111", the "zero" indicator will come on, and the scale will then display +5.

2) If the scale has been off in excess of 1 hour; allow a 5 minute warm-up period before using. Decimal points will show during warm-up.

3) When the "zero" indicator is not on and stable press the ON/ZERO button and verify the "zero" indicator is on before proceeding. The scale will display "....." whenever it is in the zero process.

2.2 MODE SELECTION (Model 5835W Only)

1) The Model 5835W has two modes of operation: Counting and Weighing. These modes are selectable to meet your needs.

2) The COUNT/WEIGH button selects the desired mode of operation. The scale mode alternates with each pressing of the button.

3) The COUNT mode is activated when the "count" (front panel) indicator is on.

4) The COUNT mode is automatically selected when the SAMPLE button is pressed, see para. 2.3.

5) The WEIGH mode is activated when the "lb" or "kg" (front panel) indicator is on.

   a) lb/kg - Conversion of the weighing units (lb/kg) is made by changing the position of the LB/KG switch located on the rear panel of the scale.

   b) The WEIGH mode is useful in determining an accurate weight of a sample or bulk load. The weight of a sample will determine the accuracy of the count, refer to Figure 2-1. The scale can be switched between count and weigh modes without affecting the sample information.

2.3 SELECT A SAMPLE SIZE

1) Press the SAMPLE button to select the desired sample size. Each successive pressing of the SAMPLE button will select a sample size that is displayed at "+5, +10, +25, +50 or +100". The number displayed is the "number of pieces" to be placed on the platter as a sample all at one time. DO NOT COUNT THE SAMPLE OUT ONTO THE SCALE PLATTER. The display will blank until the sample is accepted or rejected.

2) A "sufficient" sample placed on the platter is indicated by:

   a) The selected sample size is displayed as count "5, 10, 25, 50 or 100".

   b) The front panel indicator "place bulk load on platter" is on.

3) An "insufficient" sample placed on the platter is indicated by:

   a) Displayed dashes " - - - - - ".

   b) The front panel indicator "remove insufficient sample" is on.

4) If an "insufficient" sample is indicated:

   a) Remove the "insufficient" sample from the platter.

   b) The minimum number of pieces required for a "sufficient" sample size is then displayed. This sample size is calculated at .1% of the scale capacity and can not be greater than 255.

   c) Manually count the number of pieces displayed and place them on the scale platter all at one time. DO NOT COUNT THE SAMPLE OUT ONTO THE SCALE PLATTER.

   d) Note that the sample size has been accepted and the scale is now ready to count the parts in a bulk load.

   e) Remove the sample and place the bulk load on the platter.

5) Flashing dashes "-----" are displayed when the calculated number of pieces required for a "sufficient" sample size is greater than 255. Press the SAMPLE button to return the scale to the last sample size. The piece weight is too small for the capacity of scale.

2.4 BULK LOAD COUNTING

1) The front panel indicator "place bulk load on platter" must be on before attempting to obtain a count of the bulk load.

2) Place the bulk load to be counted as close as possible to the center of the scale platter.

3) The number of pieces of the bulk load will then be displayed. Record the number of pieces and remove the bulk load.

4) Repeated lots may be counted without resampling.

5) Optimum performance will be achieved if the scale platter is not loaded for extended periods. Place the items to be counted on the platter, record the reading and remove the load.

6) Overload is indicated by upper dashes " - - - - - ".

7) Negative count limit, "-9,999", is indicated by lower dashes " _ _ _ _ _ ".

2.5 USING THE LABEL PRINTER WITH THE MODEL 5835/5835W (Option)

1) Follow the operating procedures for selecting a sample size, refer to 2.3.

2) Place the items to be counted on the platter.

3) Press the PRINT button on the counting scale to print a label. The label will print when any scale motion ceases.

2.6 COUNTING AN UNKNOWN QUANTITY

1) Press the SAMPLE button. Scale will respond with the last sample size used. If sample size is not appropriate to this operation, repeat pressing SAMPLE button until proper sample size appears.

2) Place the entire sample on the scale platter at one time. If the sample is "insufficient" refer to step 4 of 2.3.

3) Remove the sample.

4) Place the empty bulk container on the scale and press the ON/ZERO button.

5) Load the bulk container with the unknown quantity.

6) Read the quantity of pieces.

2.7 COUNTING A KNOWN QUANTITY

1) Press the SAMPLE button.

2) Place the entire sample on the scale platter at one time. If the sample is "insufficient" refer to step 4 of 2.3.

3) Remove the weight.

4) Place the empty container on the scale and press the ON/ZERO button.

5) Add pieces to the bulk container until the quantity desired is displayed.

2.8 TURNING THE SCALE OFF

1) The scale will automatically go into the "sleep mode" when not used in excess of 10 minutes if the scale power cord is not plugged into an AC power source. During the "sleep mode" the display and indicators are off to conserve battery life. Normal operation can be restored by pressing the ON/ZERO button.

2) The scale can be turned off at any time by pressing the momentary switch at the lower right corner of the scale.

3) The scale will automatically turn itself off (after approximately 30 minutes) if the "low battery" indicator comes on and the scale power cord is not plugged into an AC power source to recharge the battery. Allow approximately 14 hours to completely recharge the battery. The scale can be used during the recharge cycle with a slight extension of recharge time required.

2.9 MINIMUM SAMPLE SIZE AND ACCURACY CRITERIA

There are three principal sources of accuracy criteria in counting from a weighed sample, they are:

1) Instrumental accuracy of the scale.
2) Accounting for container weight.
3) Variation in the weight of the parts.

This accuracy is maximized by using a "suitably large" sample size, and this section is to help you determine "suitably large" for your situation.

1) Instrumental Accuracy of the Scale (Refer to Figure 2-1)

The scale is programmed to reject samples weighing less than or equal to .08% of scale capacity. This restriction insures that instrumental accuracy will be greater than 97% on a well-maintained scale.

Rejection of the sample is indicated by the scale continuing to display " - - - - - " and the "remove insufficient sample" indicator is on. A minimum sample size is calculated at .1% of scale capacity (98% accuracy) and displayed when the rejected sample is removed.

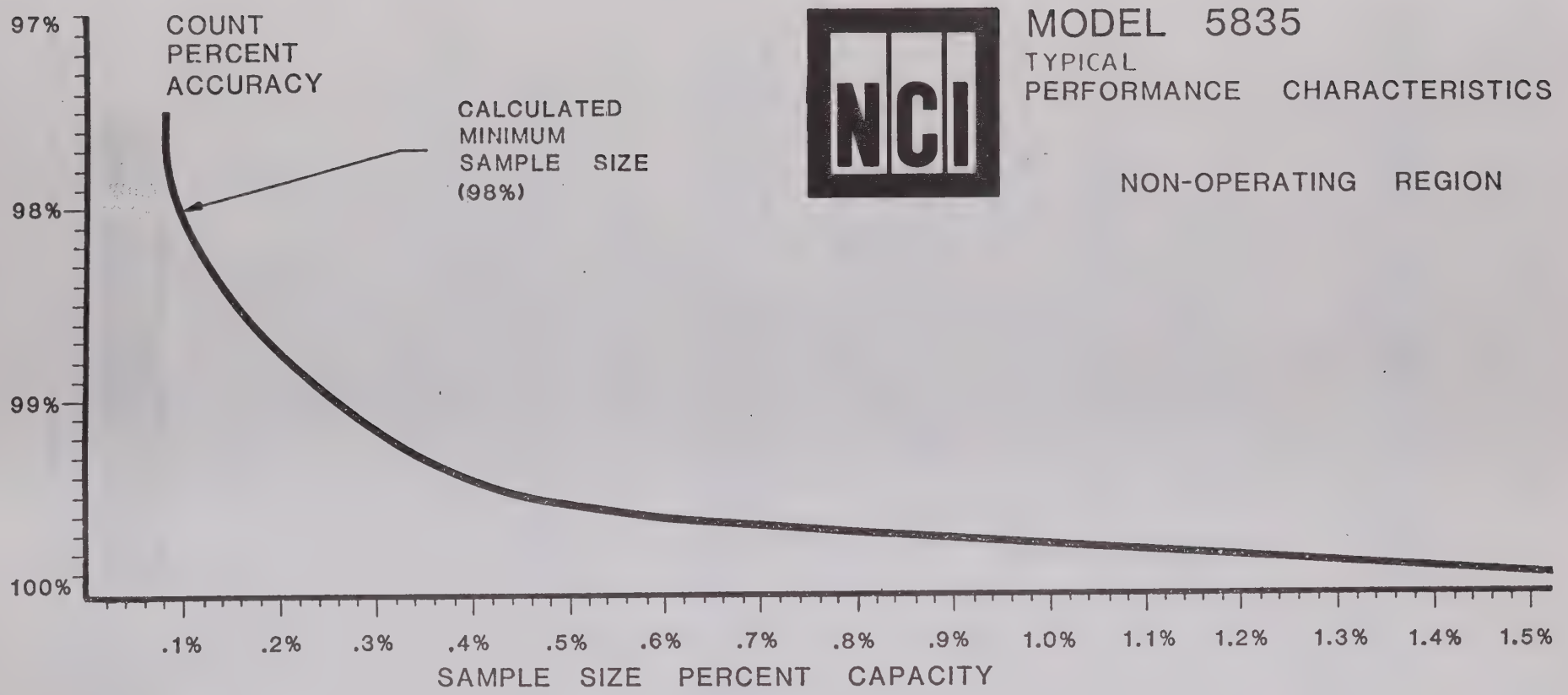
Instrumental accuracy will be greater than 99.5% when sample weight exceeds 0.5% of scale capacity. So that when a calculated sample size of .1% is displayed simply multiply the sample size by 5 to achieve greater than 99.5% accuracy, refer to graph Figure 2-1.

The instrumental counting accuracy is determined by the weight of the sample and is expressed as a percentage of scale capacity. Figure 2-1 illustrates the instrumental accuracy of the Model 5835/5835W Counting Scale. When a specific counting accuracy is desired this graph can be used to indicate the required weight of a sample. Example: You want to achieve 99% instrumental accuracy. Follow the 99% point on the vertical axis straight across until intersecting the curve. Then go straight down to the horizontal axis. The point of intersection at the horizontal axis is .26%. So to achieve a 99% instrumental accuracy you must use a sample that weighs .026 lb on a 10 lb scale, or .13 lb on a 50 lb scale.

2) Accounting for Container Weight

Bulk containers of different weight may be changed in mid-operation without re-establishing the sample. Simply place the empty new container on the scale platter and press the ON/ZERO button. The "zero" indicator will light when the new container has been zeroed out.

NOTE: The weight of the container will decrease the full load capacity of the scale.



SCALE CAPACITY — TOTAL WEIGHT OF SAMPLE (LB)

% CAP	.1%	.2%	.3%	.4%	.5%	.6%	.7%	.8%	.9%	1.0%	1.1%	1.2%	1.3%	1.4%	1.5%
10LB	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15
25LB	.025	.05	.075	.10	.125	.15	.175	.20	.225	.25	.275	.30	.325	.35	.375
50LB	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.75
100LB	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.00	1.10	1.20	1.30	1.40	1.50
2 LB	.002	.004	.006	.008	.010	.012	.014	.016	.018	.02	.022	.024	.026	.028	.030

FIGURE 2-1

3) Variation in Weight of Parts (Refer to Figure 2-2)

As you select a larger sample, you have the opportunity to select some heavier and some lighter parts so that, as the sample size increases, the average pieceweight of the sample comes closer to the average pieceweight of the uncounted lot. The resulting count thus becomes more reliable.

This illustrates two facts about selecting a sample size:

- As your desire for accuracy increases, so must your sample size.

- As the uniformity of the parts DECREASES, your sample size must INCREASE to maintain a given level of accuracy.

While a large sample size seems to cure all ills, there are good reasons for not selecting a sample size larger than necessary;

- Manual counting errors will occur more frequently when counting out larger samples.

- Time will be wasted in unnecessary manual counting.

With some knowledge of the typical variance of classes of your parts, and a decision on the accuracy you require in the count, the following curves in Figure 2-2 will allow you to select a suitable sample size.

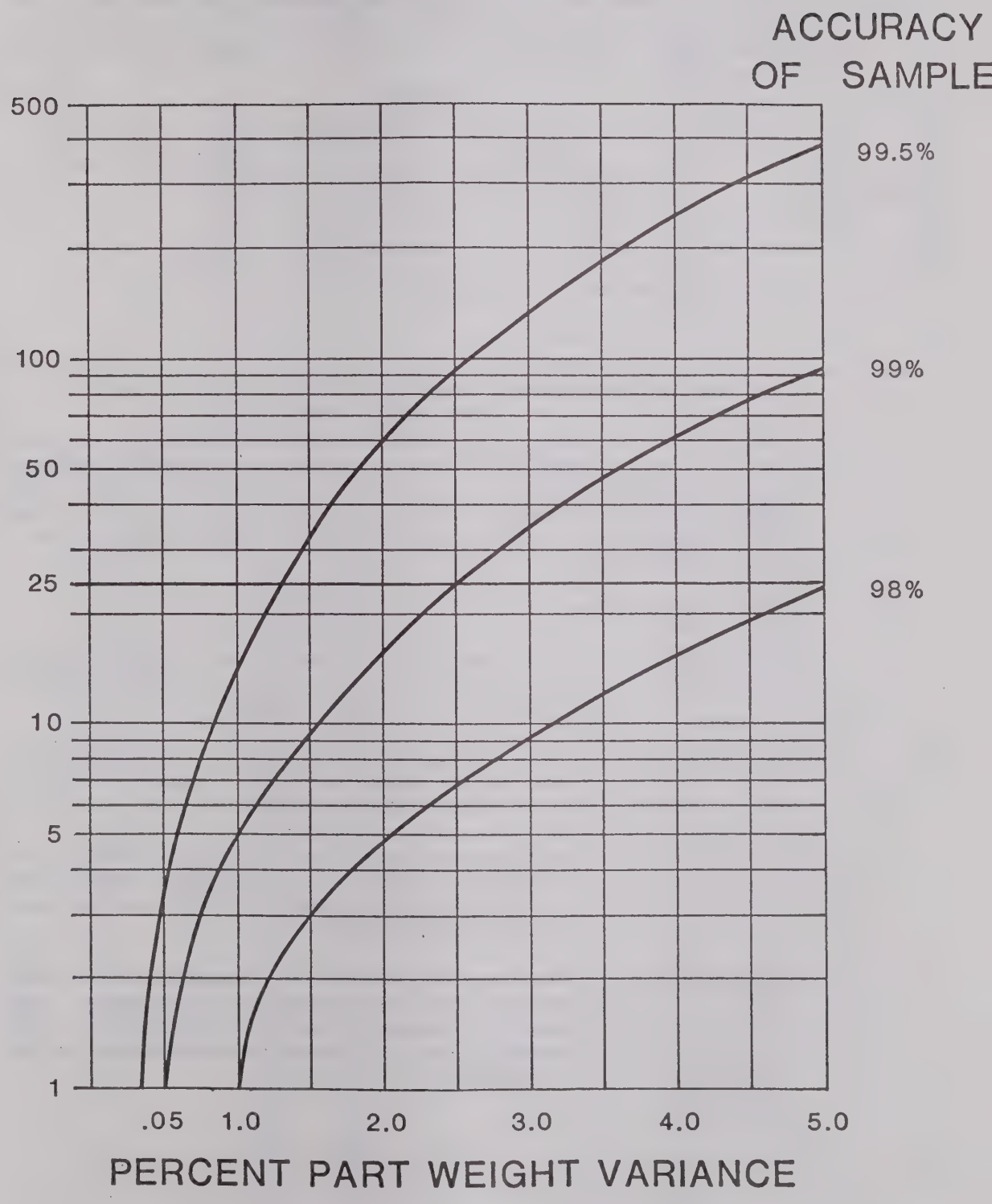
1. Decide whether you need an accuracy of 99.5%, 99% or 98%, and select the correct curve accordingly.

2. Read across the horizontal scale to choose the typical value for part weight variance.

3. Follow straight up to the selected curve, and across to the vertical scale. Read the number of parts in the sample.

FIGURE 2-2

FINDING SAMPLE SIZE

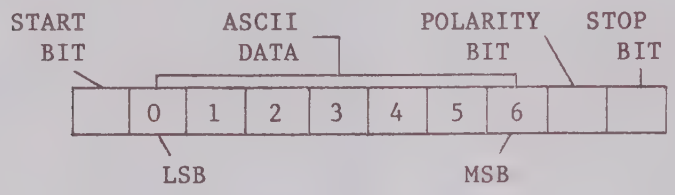


NOTE:WEIGHT OF SAMPLE MUST BE WITHIN PERCENTAGE OF SCALE CAPACITY, REFER TO FIGURE 2-1.

NOTE: PART WEIGHT VARIANCE IS OTHER THAN HOMOGENOUS PARTS.

3.1 PRINTER INTERFACE SPECIFICATIONS

A printer interface exists in the system to allow data transfer to a Label Printer. The interface consists of a 20ma current loop, which allows electrical isolation between the scale and printer. Data is sent through the current loop when the print button is pressed. The printer accepts this data and prints a label. The data format conforms to the following standards (See Figure):



a. 1200 BAUD current loop
b. 1 start bit
c. 1 stop bit
d. Even parity
e. ASCII character code

The first character is a binary number that represents the number of characters to be sent. The second through the twelfth are the ASCII characters representing the printer label. The last character is a modulo 128 checksum of all data sent. (This includes the first or length character). Parity is sent with all characters.

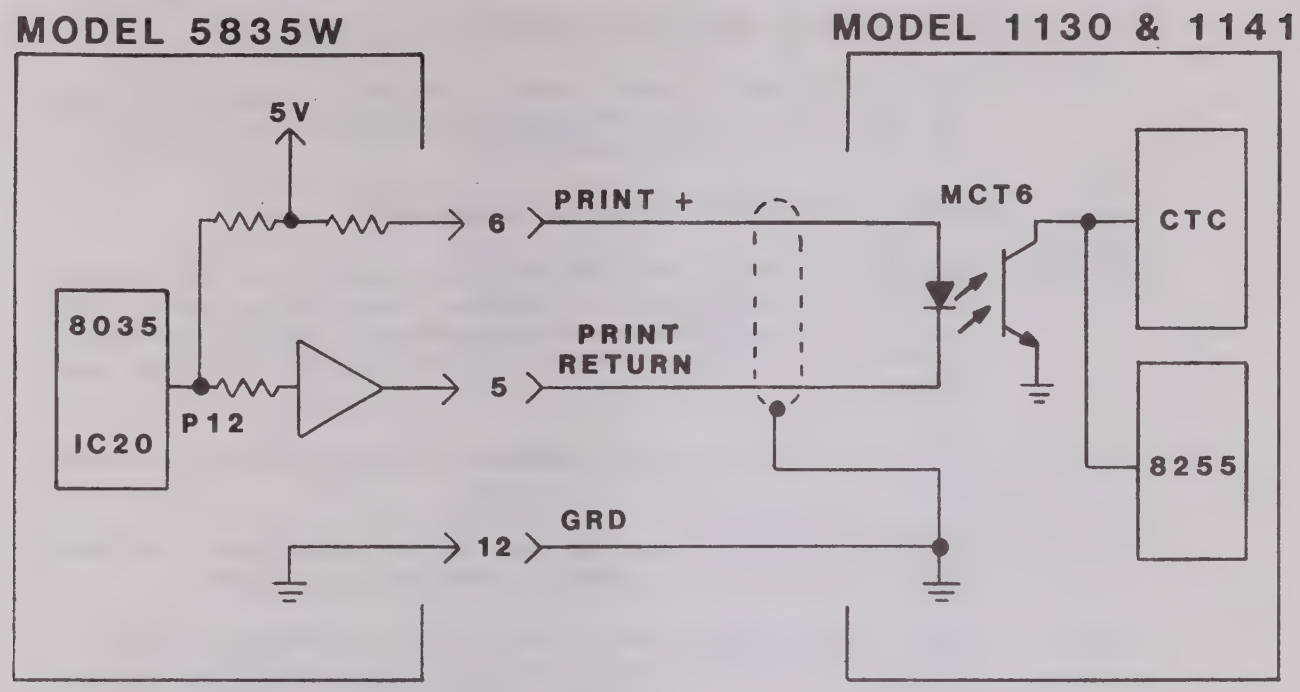
3.1.1 Data Format

Start Bit - The start bit preceeds the transmission of each work of data being sent to the printer. The start bit always equals 0.

Character Code - Bits 0 thru 6 of the data word correspond to the ASCII character code. (Refer to ASCII DATA FORMAT TABLE on next page).

Parity Bit - The parity bit is set if there are an odd number of bits set in the data word. The parity bit is cleared if there are an even number of bits set.

Stop Bit - The stop bit follows the transmission of each word of data being sent to the printer. the stop bit always equals 1. Two stop bits are normally sent to insure synchronization of the interface.



ASCII DATA FORMAT

CHARACTER	CODE	CHARACTER	CODE
1 SPACE	X000 0001	A	X100 0001
2 SPACES	X000 0010	B	X100 0010
3 SPACES	X000 0011	C	X100 0011
4 SPACES	X000 0100	D	X100 0100
5 SPACES	X000 0101	E	X100 0101
6 SPACES	X000 0110	F	X100 0110
7 SPACES	X000 0111	G	X100 0111
8 SPACES	X000 1000	H	X100 1000
9 SPACES	X000 1001	I	X100 1001
10 SPACES	X000 1010	J	X100 1010
11 SPACES	X000 1011	K	X100 1011
12 SPACES	X000 1100	L	X100 1100
13 SPACES	X000 1101	M	X100 1101
14 SPACES	X000 1110	N	X100 1110
15 SPACES	X000 1111	O	X100 1111
SPACE	X010 0000	P	X101 0000
-	X010 1101	Q	X101 0001
.	X010 1110	R	X101 0010
Ø	X011 0000	S	X101 0011
1	X011 0001	T	X101 0100
2	X011 0010	U	X101 0101
3	X011 0011	V	X101 0110
4	X011 0100	W	X101 0111
5	X011 0101	X	X101 1000
6	X011 0110	Y	X101 1001
7	X011 0111	Z	X101 1010
8	X011 1000		
9	X011 1001		
	X011 1001		

3.2 PRINTER INTERFACE INSTALLATION (Option)

1) Unplug the scale power cord from the AC source. Press the momentary power switch at the lower right corner of the base to turn the scale off.

2) Remove the platter, load bridge and scale cover.

3) Remove the two screws and the cover plate from the rear of the scale base (next to the fuse). Note that on Model 5835W this plate contains the LB/KG switch. Loosen and remove the switch mounting nut and switch from the existing cover plate.

4) Insert the cable, small connector first, into the uncovered hole.

5) Mount the connector to the rear of the scale base. On Model 5835W reinstall LB/KG switch in new connector plate.

6) Plug the small connector into J1 on the Digital Control & Power Supply board. Route the cable away from the load cell and heat sinks. On Model 5835W, plug the RED wire into position 6 of the existing connector in J1 and connect the YELLOW wire to position 5 of that connector.

7) Assemble the scale.

8) Plug the Label Printer Cable into the connector on the rear of the scale base.

9) Install the Label Printer, refer to the Printer Manual.

NOTE: To maintain the charge on the battery, plug the Counting Scale power cord into the utility outlet on the NCI Model 1130 & 1141 Label Printers.

PRINTER INTERFACE CABLE CHART
(Refer to Appendix for Cable Drawings)

Scale	Internal Cable	Interconnect Cable	Printer
Model 5835	7140-00397	7140-00489	Model 1130
Model 5835	7140-00426/A	7140-00490/A	Model 1130
Model 5835W	7140-00426/B	7140-00490/B	Model 1130
Model 5835W	7140-00426/B	7140-00466	Model 1141

4.1 GENERAL PREPARATIONS

4.1.1 This calibration procedure applies to the Model 5835/ 5835W counting scale.

CAUTION: All adjustments must be performed by a qualified electronic scale technician. The technician will be exposed to hazardous voltages and must take precaution to avoid electrical shock or short circuits that may injure the technician or the equipment.

4.1.2 Remove the scale platter and load bridge.

CAUTION: To protect the load cell; while removing the load bridge, use one hand on the outside corner of the load bridge. This relieves extreme torque on the load cell when loosening or tightening the load bridge mounting screws.

4.1.3 Remove the four housing cover screws and the housing cover.

4.1.4 Replace the load bridge and the scale platter.

4.1.5 Close S1-1, located on the Digital Control & Power Supply Board, to disable the sleep mode.

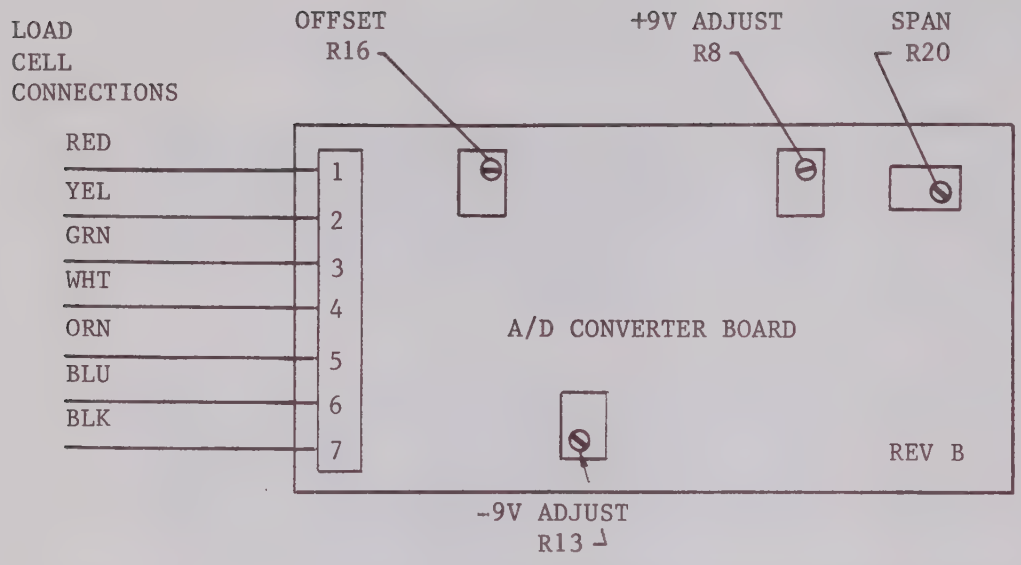
4.1.6 Plug the scale into an AC power source.

4.1.7 Before making any final calibration adjustments, the scale must be given at least 30 minutes warm-up time. This will insure that the load cell and all associated electronic circuitry has reached a stabilized temperature.

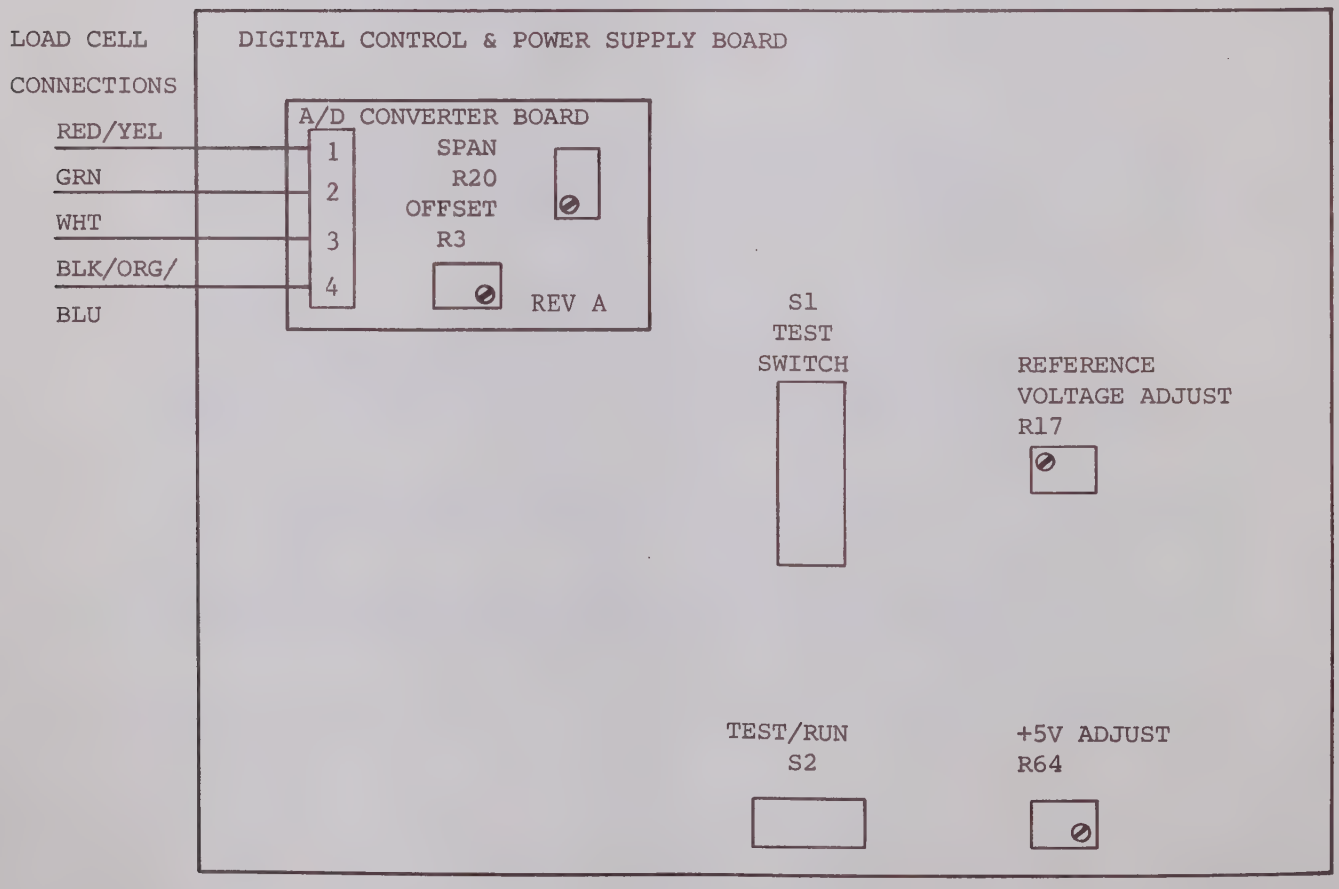
4.1.8 Calibration data is stored in CMOS RAM. It is essential that power be maintained to RAM either from the internal battery source or an AC source. Removing power from both of these sources will result in the loss of calibration data in the RAM.

NOTE: When "ooooo" are displayed the scale has lost calibration data and must be calibrated.

4.1.9 Quickly add and remove full capacity weight to the scale platter at least three times. This will insure the load cell is at its unstressed zero condition.



THE SIZE OF THE TERMINAL BLOCK CAN EASILY IDENTIFY WHICH REVISION LEVEL THE BOARD IS. REV A HAS 4 TERMINAL BOARD CONNECTIONS AND REV B HAS 8.

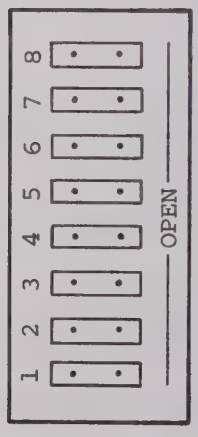


BOARD ADJUSTMENTS

TEST SWITCH CAPACITY SETTINGS

CAPACITY	S1-6	S1-5	S1-4
100 1b, 40 kg	OPEN	OPEN	OPEN
50 1b, 20 kg	OPEN	OPEN	CLOSED
25 1b, 10 kg	OPEN	CLOSED	OPEN
10 1b, 4 kg	OPEN	CLOSED	CLOSED
2 1b, .8 kg	CLOSED	OPEN	OPEN
COUNT ONLY	CLOSED	OPEN	CLOSED
COUNT ONLY	CLOSED	CLOSED	OPEN
COUNT ONLY	CLOSED	CLOSED	CLOSED

TEST SWITCH S1



(8) CLOCK (MUST BE CLOSED)

(7) NOT USED

(6) CAPACITY
(5) CAPACITY
(4) CAPACITY
} SEE CAPACITY TABLE

(3) CALIBRATION - CLOSE TO CALIBRATE

(2) 1b/kg - OPEN FOR POUNDS; CLOSED FOR KILOGRAMS *

(1) TEST/SLEEP - CLOSED FOR TEST MODE

* OPEN FOR EXTERNAL SWITCHING

CLOSE SWITCH TO ACTIVATE

4.2 PRELIMINARY ADJUSTMENTS

4.2.1 These adjustments are performed at the factory and normally should not require any further adjustment, unless the Digital Control & Power Supply Board is replaced.

4.2.2 Reference Voltage Adjustment

1) Connect a digital voltmeter (4 1/2 digits ± .1mV) positive lead to IC23 pin 2 and the negative lead to Digital Ground on the Digital Control and Power Supply board.

2) Adjust R17, located on the Digital Control and Power Supply board, until the digital voltmeter reads + 2.500 ± .005 VDC.

4.2.3 +5V Adjustment

1) Remove the four screws holding the display panel to the scale base. Lay the display panel down to provide access to the +5V adjustment potentiometer R46, on the Digital Control and Power Supply board.

2) Connect a digital voltmeter positive lead to the cathode of CR16 or CR17 and the negative lead to Digital Ground.

3) Adjust R64 until the digital voltmeter reads + 5.0 VDC + .2 VDC - .0 VDC.

4.2.4 9 V Adjustment (REV B A/D Board)

1) Connect a digital voltmeter positive lead to IC1 pin 7 and the negative lead to GND (TB1-5).

2) Adjust R8 until the digital voltmeter reals +9.0 VDC ±.005 VDC.

3) Connect a digital voltmeter positive lead to IC1 pin 4 and the negative lead to GND (TB1-5).

4) Adjust R13 until the digital voltmeter reads -9.0 VDC ± .005 VDC.

4.3 FINAL CALIBRATION

4.3.1 Level the scale using the level bubble mounted in the load bridge. The scale is level when the bubble is within the circle printed on the transparent case.

4.3.2 Turn the scale ON and allow the scale to warm-up for 1/2 hour.

4.3.3 Test for excessive noise by lifting up on the weight platter until "99999" appears on the display. Release the platter and the scale should count down and the zero light should appear before a count of "44444" is displayed.

4.3.4 Exercise the load cell by applying full capacity weight to the scale platter at least two times.

4.3.5 Set-up the scale for calibration by closing S1-1 and S1-3. On the Model 5835W, the lb indicator will flash.

4.3.6 Press the "SAMPLE" key. The display now reads the difference between the optimim dead load and the current dead load in percent of full scale. The "PLACE NUMBER" indicator will be ON.

4.3.7 Adjust R3 for REV A or R16 for REV B A/D Boards so that the display reads 0.000 (+0.100 to -0.100). Place 1/2 capacity on the scale and adjust R20 until the display reads "50.000" (49.900 to 50.100). Repeat this procedure until the display reads "0.000" $\pm$ .1 with no weight and displays "50.000" $\pm$ .100 with 1/2 capacity.

4.3.8 Press the "SAMPLE" key. (The scale will momentarily flash "-----" if the display reads greater than 0.200). When the scale accepts the reading the "PLACE BULK LOAD" indicator will be ON and the display will show lower dashes.

4.3.9 Place 1/2 capacity on the weighing platter. Adjust R20 so that the display reads 0.000 (+0.100 to -0.100). If an adjustment to R20 is made, you must go back to Step 4.3.6, by pressing the "ON/ZERO" key. Otherwise press the "SAMPLE" key to enter the reading. When the reading is accepted, the "REMOVE INSUFFICIENT SAMPLE" indicator will be ON and the display will show lower dashes.

4.3.10 Place full capacity on the scale platter. Press the "SAMPLE" key. If the scale accepts the reading the "REMOVE INSUFFICIENT SAMPLE" indicator will go out. If the scale cannot accept the displayed reading it will momentarily flash "-----". The ZERO button must then be pressed and the sequence started from Step 4.3.7. If this test repeatedly fails the load cell may have to be replaced.

4.3.11 Return switch S1-1 and S1-3 to their open positions.

4.3.12 With weighing platter empty, press the "ON/ZERO" key.

4.4 ACCURACY TEST (Model 5835W)

4.4.1 Complete 16 weighings using the sample weight and test weight per the capacity of scale. Put the scale in the lb mode for this test.

CAPACITY	SAMPLE WEIGHT	SAMPLE SIZE	TEST WEIGHT	TEST COUNT
100 lb	.10 lb	100	50 lb	50,000
50 lb	.05 lb	100	25 lb	50,000
25 lb	.025 lb	100	12.5 lb	50,000
10 lb	.01 lb	100	5 lb	50,000
2 lb	.002 lb	100	1 lb	50,000

1) Good Scales - All 16 weighings are between 49,000 and 51,000. Average deviation of 16 weighings should be $\pm$ 300.

2) Marginal Scales - 1 of 16 weighings is not between 49,000 and 51,000.

3) Bad Scales - 2 of 16 weighings are not between 49,000 and 51,000.

4.4 OVERLOAD ADJUSTMENTS

4.4.1 There are five adjustable stops to protect the load cell from being damaged by excessive weight applied to the scale. One stop is underneath the load cell and the other four are on the corners of the load bridge.

4.4.2 Center Stop Adjustment

1) Apply weight to the center of the scale platter equal to scale capacity.

2) Adjust the center stop screw, under the load cell, until it just touches the bottom of the load cell, and then back off 1/2 turn.

3) Remove the weights.

4) Assemble the scale.

4.4.3 Corner Stop Adjustment (Except 2 lb and 10 lb scales).

1) The scale must be completely assembled to perform this adjustment.

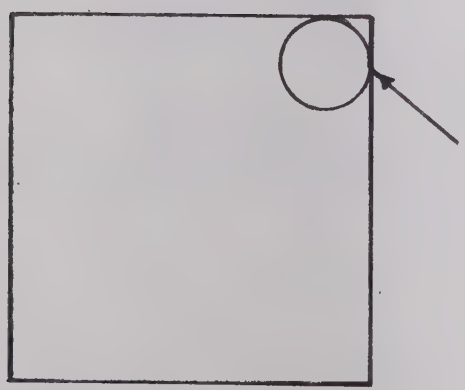
2) Invert the scale platter.

3) Apply weight to the corner of the scale platter equal to 75% of scale capacity.

4) Adjust the corner stop screw, under the load bridge, until it just touches the scale console without affecting the display reading.

5) Remove the weight.

6) Repeat steps 3 thru 5 for each corner.



WEIGHT PLACEMENT TYPICAL FOR EACH CORNER

5.1 EXTERNAL CHECKS

Make a preliminary check of the simpler, external conditions that may affect scale performance, such as:

1) Plug the power cord into an AC power source to apply a charge to the battery.

2) The AC power source must provide an earth ground for the scale chassis.

3) The fuse is good.

4) Housing screws are tight.

5) Load bridge mounting screws are tight.

6) Load cell mounting screws (located on bottom of base) are tight.

7) No objects are rubbing or caught under the platter or load bridge.

8) Corner stops are not interfering.

5.2 SIMPLE INTERNAL CHECKS

Remove the load bridge and scale cover to obtain access to the sub-assemblies inside the scale.

CAUTION: The technician will be exposed to hazardous voltages and must take precaution to avoid electrical shock or short circuits that may injure the technician or the equipment.

1) Nothing is touching the outboard end of the load cell.

2) No objects are rubbing or caught under the load cell.

3) Center stop is not interfering.

4) The load cell cable is connected properly and making good contact with receptacle.

5) The A/D converter board is plugged in tight.

6) All cables are plugged in properly and making good contact with receptacle.

7) The chassis ground connection to the front panel is secure.

8) Test switches are set properly, refer to calibration.

9) Scale has not lost calibration data.

10) Plug-in circuit components are properly oriented. (U-shaped cut-out or mark of component aligns with similar "notch" of part outline on the circuit board.)

11) Plug-in circuit component's pins are making contact with the socket.

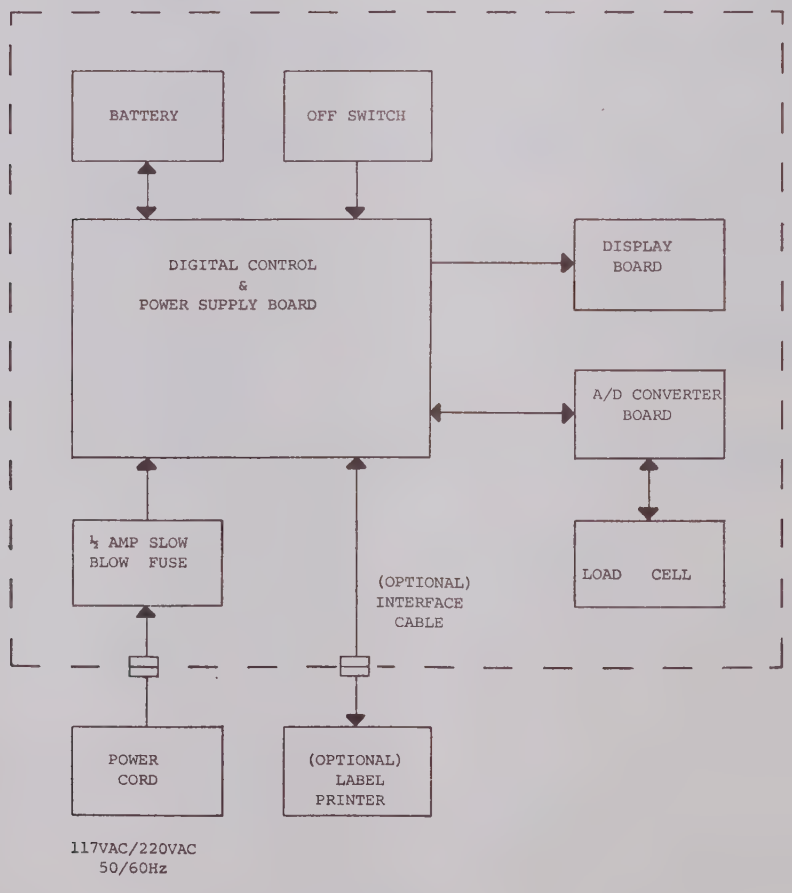
12) No conductive materials are shorting any wires, components, or traces.

5.3 ISOLATING FAULTY SUB-ASSEMBLY

The following guide will enable a scale technician to restore the Model 5835/5835W Counting Scales to an original working condition. Although the circuitry is complex, troubleshooting by sub-assembly substitution will quickly return the scale to a working condition. Use the Troubleshooting Diagram to isolate a faulty sub-assembly. Any attempt to repair a sub-assembly in the field rather than replace them is not advised.

SYMPTOM	TEST ACTION
scale does not work when plugged into 115V	1. check fuse 2. check power cord 3. replace DC & P/S board
scale does not work without 115V power.	1. battery dead - charge battery for 14 hours
after 14 hours of charging, scale still does not turn ON without 115V power.	1. replace DC/PS board 2. replace battery NOTE: Check charger before replacing battery.

SYMPTOM	REMEDY
scale counts down and lock ups at "....." when ON/ZERO button is pressed	1) replace A/D Converter board 2) replace DC & P/S board 3) replace load cell
erroneous information on display segments	1) replace DC & P/S board 2) replace A/D Converter board
partial, missing, flashing, or intermittent display segments or LED's	1) replace DC & P/S board 2) replace Display board
will not zero when ON/ZERO button is pressed	1) DC & P/S board 2) Display board 3) A/D Converter board
does not return to zero when applied weight is removed	1) load cell
scale displays " o o o o o " when the ON/ZERO button is pressed	1) scale needs to be calibrated



5.4 BATTERY INFORMATION

5.4.1 ABOUT THE BATTERY

1) Under normal operating usage the life of the battery is estimated at 1 1/2 to 3 years.

2) To maximize the life of the battery and to prevent the loss of calibration data, plug the scale power cord into an AC power source to recharge the battery:

   a. when the scale is not in use

   b. at the end of each working day

   c. when stored (if practical)

   d. every 6 months when stored (if not plugged in)

3) Check the battery charger before installing a new battery, refer to Section 5.4.3.

5.4.2 HOW TO REPLACE THE BATTERY

1) Remove the platter, load bridge, and scale cover.

2) There are two connectors (J4 & J5) on the Digital Control & Power Supply board that are connected in parallel as battery inputs.

3) Plug the "new" battery cable into the auxiliary (empty) socket (J4 or J5). This will eliminate any loss of calibration data.

4) Do not unplug the "old" battery cable from the DC & P/S board until the "new" battery cable has been securely plugged into the auxiliary battery socket.

5) Unplug the "old" battery cable from the DC & P/S board.

6) This procedure will prevent the loss of calibration data.

7) Remove the four nuts securing the battery to the scale base.

8) Remove the battery mounting brackets and the "old" battery.

9) Install the "new" battery and the battery mounting brackets.

10) Install the four nuts and tighten to secure the battery.

11) Assemble the scale.

5.4.3 BATTERY CHARGER CHECK

There are two methods for checking the battery charger.

METHOD 1 is to use a battery simulator. You will need a variable power supply which is capable of putting out .4A from 0 to 17 volts.

EQUIPMENT NEEDED

Variable power supply (.4A)

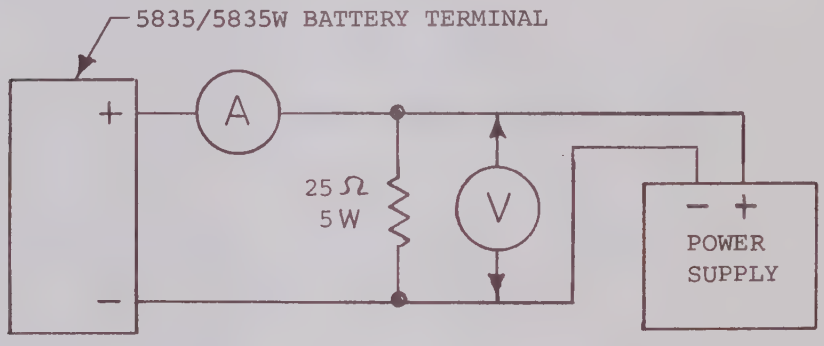
Adjustable voltage from 0 to 17 volts

Resistor 25 ohm 5W

Multi-meter to measure volts and current

PROCEDURE:

1) Hook-up the following circuit:



2) Turn the power supply voltage to zero.

3) Plug in the scale and turn on the power supply.

4) The ammeter should read 330 mA ± 50 mA.

5) Slowly increase the power supply voltage.

6) When the voltage reaches 15.1 (14.9 to 15.8) volts, the charge current should decrease to 9 mA (7 mA to 11 mA).

7) Once the lower charge current is reached, start to decrease the voltage.

   The charge current should change to the higher rate of 330 mA when the voltage is lowered to 13.3 volts (13.2 to 13.5).

METHOD 2 is to use a resistor and capacitor as a battery simulator.

EQUIPMENT NEEDED:

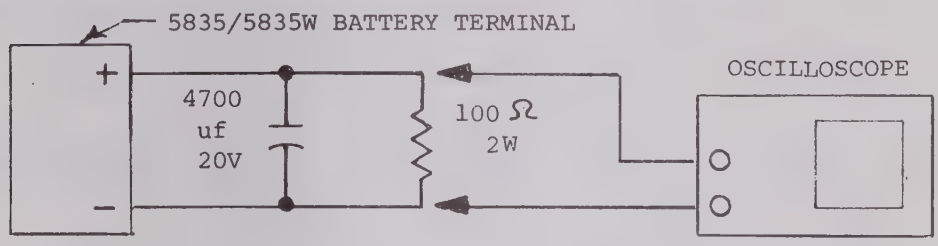
Oscilliscope

4700 uF capacitor, rated at least 20 volts

Resistor 100 ohm 2W

PROCEDURE:

1) Hook-up the following circuit.



2) Plug in the scale and turn on the oscilliscope.

3) If the charge is working correctly, the oscilloscope should display a saw tooth wave, as shown:

V_2 (The TOP of the wave), should be between 14.9 and 15.8 volts.

V_1 (The BOTTOM of the wave), should be between 13.2 and 13.5 volts.

T_1 Should be between 45 ms and 80 ms.

T_2 Should be between 60 ms and 120 ms.

5.5 CONVERSIONS

5.5.1 ELIMINATION OF NAP MODE DURING LINE POWER OPERATION

This instruction provides the procedure for disabling the operation of the nap mode when the Model 5835/W Battery Counting Scale is connected to line power. This change does not affect the operation of the scale during battery power, i.e. the scale will shut itself off after 10 minutes of idle operation.

A. SCALE DISASSEMBLY

1. Disconnect scale from line power source.

2. Remove weighing platter from scale.

3. Using a 5/32" Allen wrench, remove 2 bolts from the center of the load bridge and remove the load bridge. (This step does not apply to 2 lb and 10 lb capacity scales.)

4. Using a Phillips screwdriver, remove 4 bolts from the bottom of the scale which secure the top cover to the base. Remove the top cover.

B. SCALE MODIFICATIONS

1. Remove existing PROM set (IC17 and IC18) by carefully prying the PROM's from their sockets.

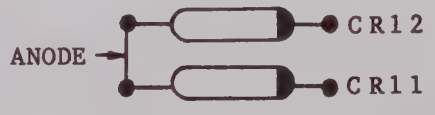
2. Place new PROM's, provided in kit, in sockets IC17 (PROM 1) and IC18 (PROM Ø). Be certain all leads line up with holes in sockets prior to pressing PROM into socket.

3. Unsolder one lead of R7 (1 meg ohm, 1/4 watt). The lead to be unsoldered is the end closest to C38 toward the back of the board when viewed from operators side of scale.

4. Cut a 3 inch piece of 24 AWG wire, strip both ends 1/4" and tin with solder.

5. Connect one end to the unsoldered lead of R7. Solder this connection and insulate with heat shrink tubing.

6. Connect the other end of the wire to the anode connections of CR11 and CR12. This is the end facing the rear of the board do not disconnect these diodes from the board.



5.5 CONVERSIONS (Con't)

C. SCALE REASSEMBLY

1. Reverse the procedure given in Section A, Scale Disassembly, of this instruction.

2. Check scale for proper operation. Check to see that the scale shuts off after 10 minutes of undisturbed operation when allowed to run on Battery power. Check to see that the scale does not shut off after 10 minutes when connected to line power.

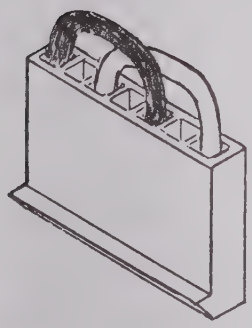
5.5.2 CONVERTING FROM 115VAC TO 230VAC

1. Remove the load bridge and the scale cover.

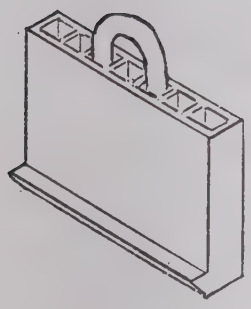
2. Remove the jumper connector J3 from the Digital Control and Power Supply board.

3. Replace with the 230V jumper connector.

4. Assemble the scale.



115 VAC



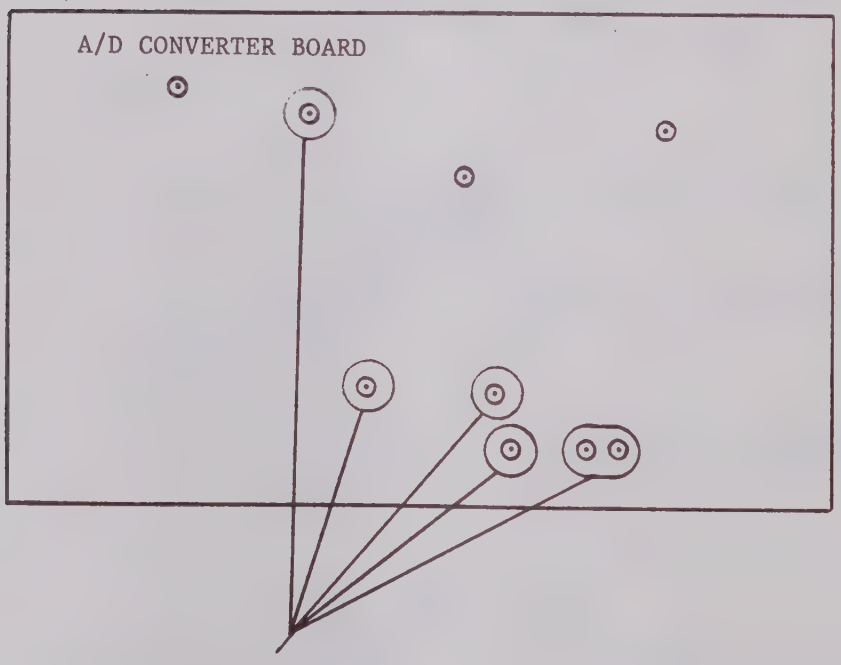
230 VAC

5.6 SERVICING NOTES

1. All A/D Converter Boards (7405-00336) are interchangable. However, when changing the board it is improtant to note the difference between REV X and REV A boards. REV X has two additional plug-in pins. These two pins must be cut off to insert into a REV A DC & PS board. Refer to drawing below for used pins.

2. When converting a Model 5835 to a Model 5835W a modification must be made to the DC & P/S Board (7405-00333 REV X). Connect a jumper from IC15 pin 1 to J1 pin 1; and from J1 pin 2 to DIGITAL GROUND. This trace provides LB/KG switch operation.

3. When changing IC2 on the A/D Converter Board (7405-00336 REV A) cut the converter guard from Pin 4 of IC2. Connect a jumper from the converter guard to pin 3 of IC2.



USED PINS

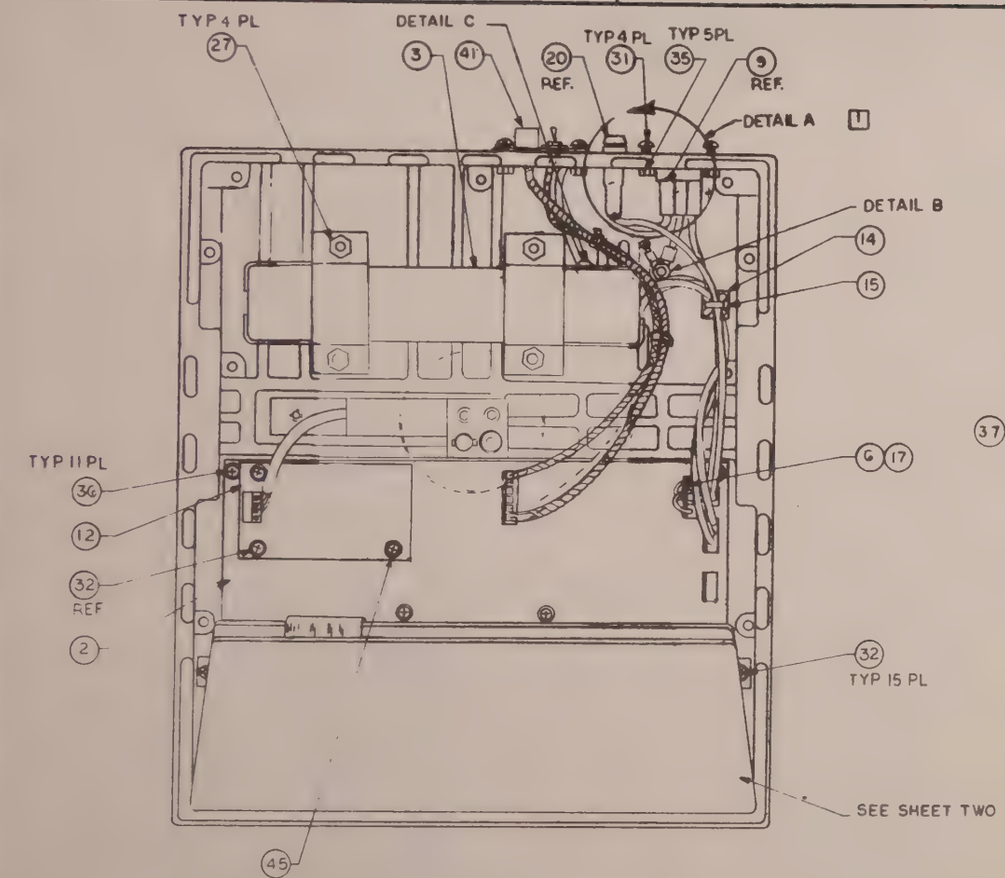
6.1 INDEX TO APPENDIX

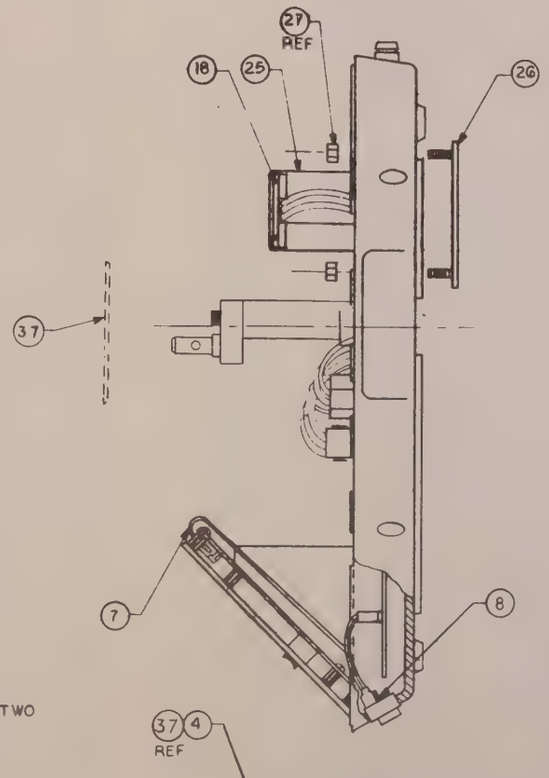
DRAWINGS

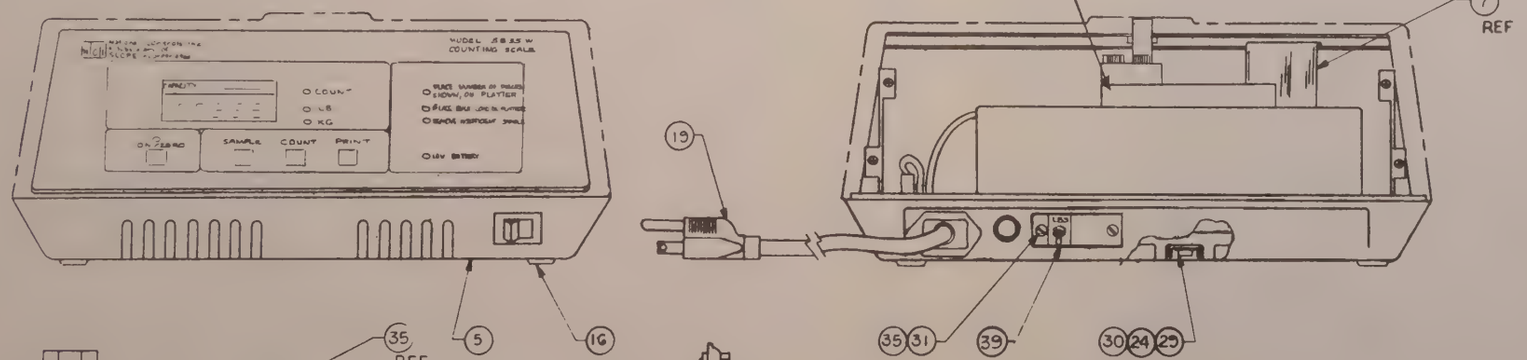
Model 5835W 2-101b Assembly (7511-00005) 33,34
Model 5835W 25,50,100 1b Assembly (7511-00003) 35,36
Moodel 5835 25,50,100 1b Assembly (7511-00002) 37,38
2 1b Load Cell Mounting Assembly (7066-00381) 39
10 1b Load Cell Mounting Assembly (7200-00205) 40
10 1b Load Cell Assembly Kit (8200-00004) 41
25,50,100 1b Load Cell Assembly Kit (8200-00005) 42
Load Cell Cable Termination Assembly (8140-00012) 43
Display Cable Assembly (7140-00386) 44
Model 5835/1130 Internal Printer Cable Assembly (7140-00397) 45
Model 5835W/1130 Internal Printer Cable Assembly (7140-00426/A) 46
Model 5835W Current Loop Out Printer Cable Assembly (7140-00426/B). . . . 47
Model 5835/1130 Interconnect Printer Cable Assembly (7140-00489). 48
Model 5835/1130 Interconnect Printer Cable Assembly (7140-00490/A). . . . 49
Model 5835/1130 Interconnect Printer Cable Assembly (7140-00490/B). . . . 50
Model 5835W/1141 Interconnect Printer Cable Assembly (7140-00466) 51
Model 5835 Wiring Diagram (8414-00688). 52
Model 5835W Wiring diagram (8414-00726) 53
DC & P/S Board Schematic (8402-00333) 54-57
A/D Converter Board Schematic (8402-00336 REV A). 58
A/D Converter Board Schematic (8402-00336 REV C). 59
A/D Converter Board Schematic (8402-00336) 60
Model 5835 Display Board Schematic (8402-00334) 61
Model 5835W Display Board Schematic (8402-00347). 62

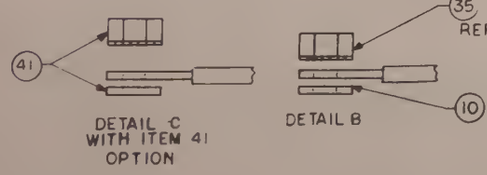
6.1 INDEX TO APPENDIX

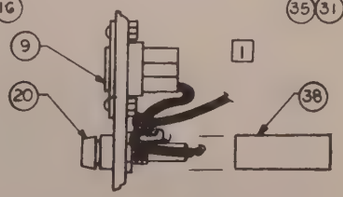
PARTS LISTS	PAGE
Model 5835/5835W Assembly Parts List	63
Model 5835W 2,10 lb Completion Kit (7200-00331)	64
Model 5835W 25,50,100 lb Completion Kit (7200-00332)	64
Model 5835 Completion Kit (7200-00325)	65
Model 5835/5835W Printed Materials Kit (7427-00012)	65
Model 5835 Spanish Option Kit (7200-00329)	65
Model 5835/5835W 240V Option Kit (7300-00567)	66
Model 5835 Printer Cable Option Kit (7200-00328)	67
DC & P/S Board Component Diagram (7405-00333)	68
DC & P/S Board Parts List (7405-00333)	69-73
A/D Converter Board Component Diagram (7405-00336)	74
A/D Converter Board Parts List (7405-00336 REV A)	75
A/D Converter Board Parts List (7405-00336)	76,77
Model 5835 Display Board Component Diagram (7405-00334)	78
Model 5835 Display Board Parts List (7405-00334)	79
Model 5835W Display Board Component Diagram (7405-00347)	80
Model 5835W Display Board Parts List (7405-00347)	81











REVISIONS					
LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIGINAL ISSUE	—			
B	ITEM 4 CHANGED	13371			

NOTES: UNLESS OTHERWISE SPECIFIED

[1] DETAIL A: AFTER INSTALLING ITEM 20 SOLDER BLK WIRES REF DWG NO. 7140-00385. THEN INSTALL HEAT SHRINK OVER FUSE HOLDER & SHRINK. WIRES ARE TO PROTRUDE FROM END CLOSEST TO CASE.

[2] PER NEXT ASSY CALL OUT.

[3] OPTIONS - ASSY INSTRUCTIONS PER ASSY CALL OUT.

	ITEM	QTY	PART NO	DESCRIPTION / MAT'L
	48			
	47			
[2]	46	REF	1070-01313	LABEL CAP 2LB-0.8KG
	45	1	1030-00107	FIBER WASHER
	44	2	1006-02598	SCREW 6/32 X 1/4 SEM
	43	1	1069-00926	BRACKET R/H
[2]	42	REF	1070-C314	LABEL CAP 10LB-4KG
[3]	41	REF	7200-00352	ASSY KIT HDW A/D PRINTER OPTION
	40	1	1134-00169	FUSE .3A SLC-BLO 120V
	39	1	7140-00423	ASSY, LB/KG SWITCH MODEL 5835W
	38	0.3	1157-00107	HEAT SHRINK 3/4 IN BLK
[2]	37	REF	7066-00381	ASSY LEAD BRIDGE 2LB (LC. MOUNT
	36	11	1029-00107	WSHR FLAT #6STL CAD
	35	5	1025-00114	NUT, HX KEP 6-32
	34			
	33	1	1069-00919	BRACKET L/H
	32	19	1006-02604	SCR SEMS 6-32 X 3/8
	31	4	1001-02610	SCR PHIL PAN 6-32 X 1/2
	30	2	1031-00091	WASHER LOCK 1/4
	29	2	1007-00189	SCR HX SOC HD 1/4 X 28 NFX 3/4
	28			
	27	4	1025-00130	NUT KEP 10-32
	26	2	1067-00925	SUPPORT, BATTERY BRACKET CLAMP
	25	2	1067-00924	BRACKET BATTERY CLAMP
	24	2	1069-01283	WSHR, CLAMPING
	23			
	22	1	1070-01311	PANEL, FRONT 5835W
	21	8	1156-01040	LENS LED RED
	20	1	1142-00317	FUSE HOLDER
	19	1	1140-00226	POWER CORD
	18	0.3	1045-00214	URETHANE PAD
[3]	17	REF	7300-00567	ASSY KIT, 240V
	16	4	1075-00142	PAD, RUBBER GRAY
	15	2	1074-00198	TIE, CABLE
	14	1	1074-00128	MOUNT, CABLE
	13	6	1044-00135	STAND OFF 1/2 IN
	12	1	7405-00336	ASSY PCB A TO D
	11	1	7405-00347	P.C.B. DISPLAY 5835W
	10	1	1028-00128	WASHER INT TOOTH CAD 6
	9	1	7140-00385	ASSY CABLE A C INPUT
	8	1	7140-00388	ASSY CABLE SWITCH
	7	1	7140-00380	ASSY CABLE DISPLAY
	6	1	7140-00328	ASSY CABLE JUMPER 120V
	5	1	1071-00574	BASE COUNTING SCALE, PLATED & PAINTED
[2]	4	1	7200-00383	KIT, LOAD CELL MOUNTING 10LB
	3	1	7148-00003	ASSY, BATTERY 5835
	2	1	7405-00333	ASSY, PCB DIGTL CONT & PWR SPLY
	1	1	1156-01041	LENS GRN

BILL OF MATERIAL

MATERIAL —

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
X ± 1
.XX ± .03
XXX ± .010
FRACTIONS ±
ANGLES ±
MACH. FINISH ✓

DRN	M. ORR	2-14-80
CHK	RWA	3/26/80
ENG	RWA	3/26/80
MFG		

TITLE: ASSY, 5835W BATTERY COUNT/WEIGH SCALE, 2-10LB

CUST	DWG NO	REV
NCI	7511-00005	B
SCALE —	JOB NO 5876	SHT 1 OF 2

5835W/2LB	9511-00168
5835W/10LB	9511-00169
USED ON	NEXT ASS'Y
APPLICATION	

33

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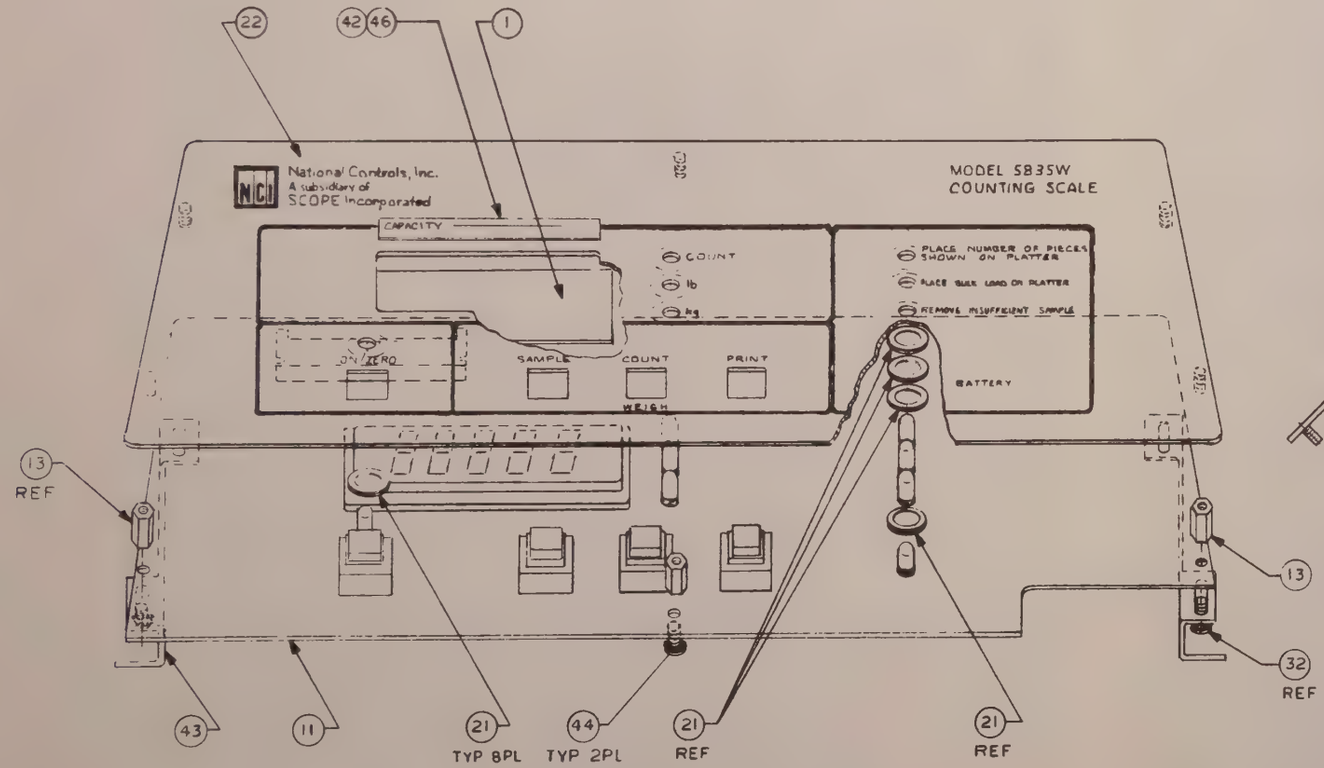
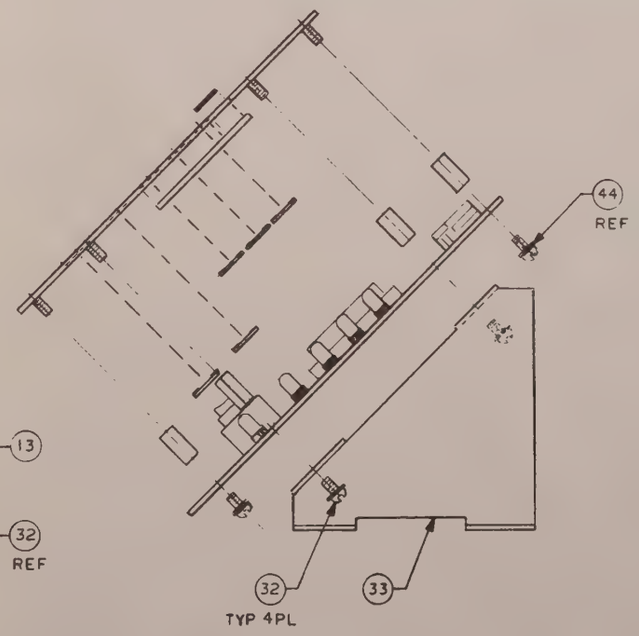
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
	- SEE SHEET ONE ———				





ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
X ± .1
XX ± .03
XXX ± .010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

DWN — DATE —
CHK RWW DATE 3/26/80
ENG RWW DATE 3/26/80
MFG — DATE —

TITLE: ASSY, 5835W, BATTERY COUNT/WEIGH SCALE 2-10LB
CUST NCI
DWG NO 7511-00005
REV E
SCALE —
JOB NO —
SHT 2 OF 2

USED ON — NEXT ASS'Y —
APPLICATION

34

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REVISIONS

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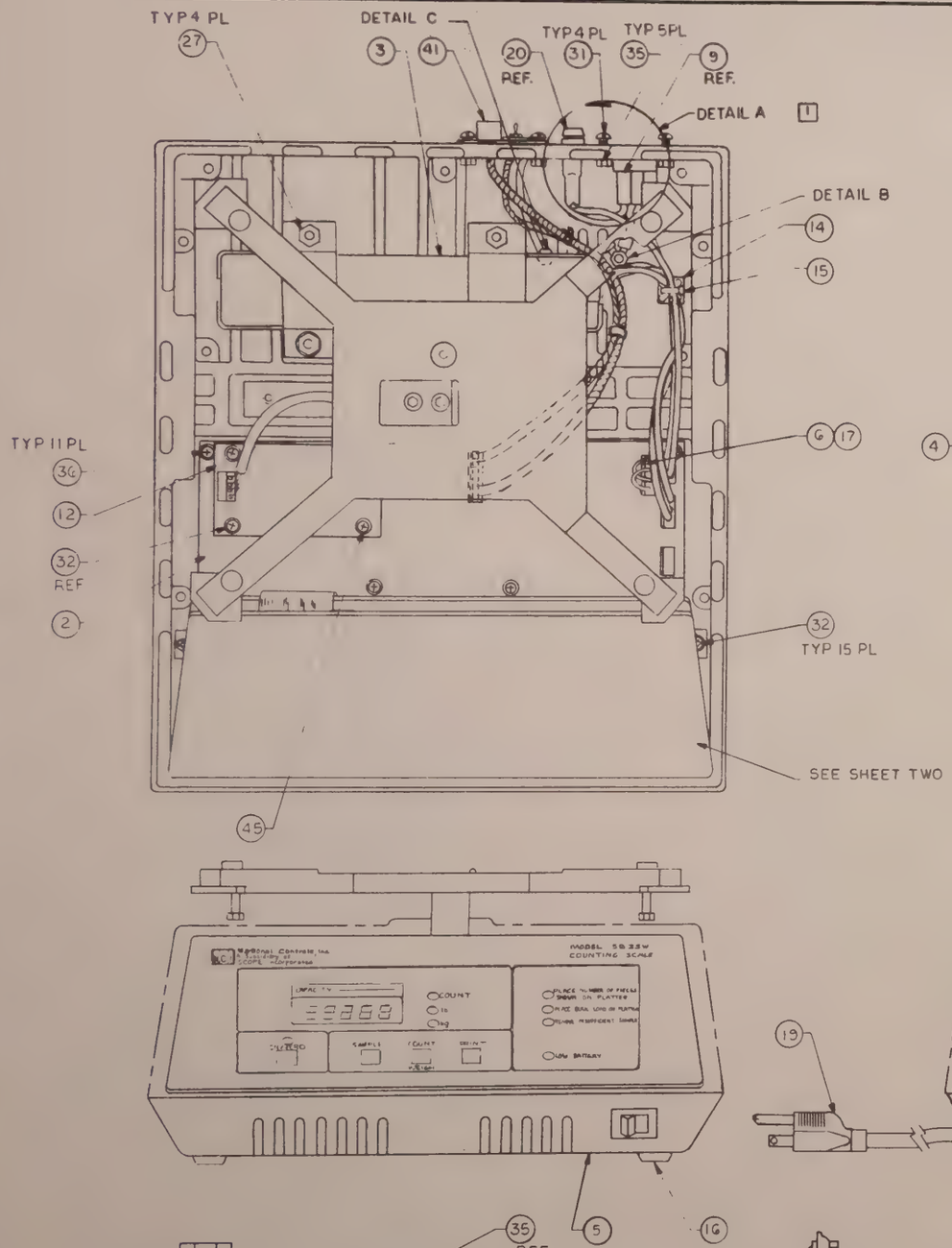

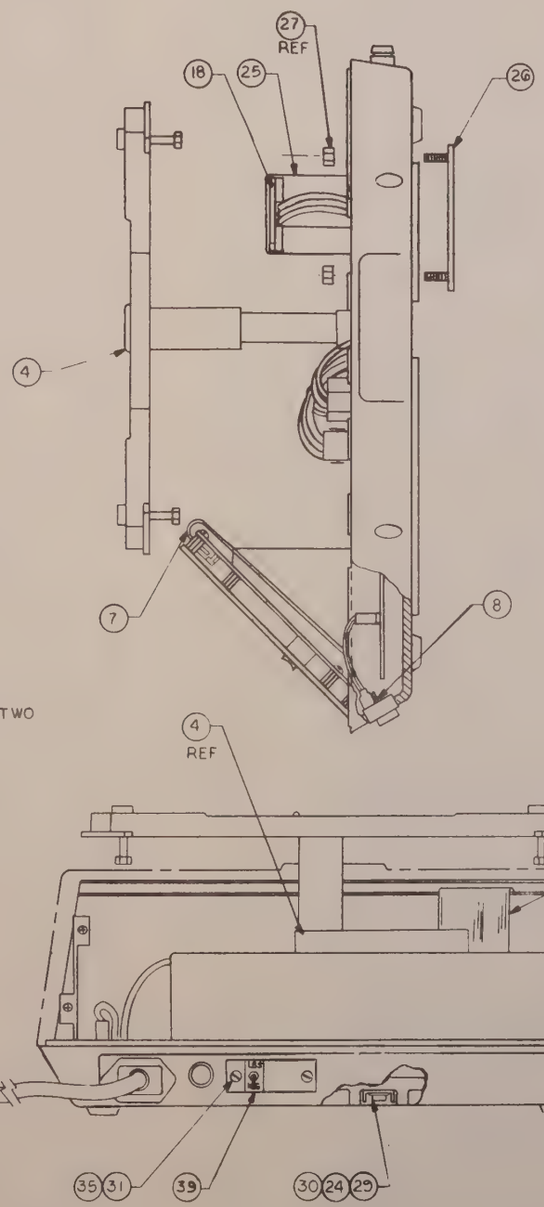

NOTES: UNLESS OTHERWISE SPECIFIED

1. DETAIL A: AFTER INSTALLING ITEM 20 SOLDER BLK WIRES REF DWG NO. 7140-00385. THEN INSTALL HEAT SHRINK OVER FUSE HOLDER & SHRINK. WIRES ARE TO PROTRUDE FROM END CLOSEST TO CASE.
2. PER NEXT ASSY CALL OUT.
3. OPTIONS - ASSY INSTRUCTIONS PER ASSY CALL OUT.

	ITEM	QTY	PART NO	DESCRIPTION / MAT'L
	48			
2	47	REF	1070-01315	LABEL CAP 25LB / 10KG
2	46	REF	1070-01316	LABEL CAP 50LB / 20KG
	45	1	1030-00107	FIBER WASHER
	44	2	1006-02598	SCREW G/32 X 1/4 SEM
	43	1	1069-00926	BRACKET R/H
2	42	REF	1070-01317	LABEL, CAP 100LB / 40KG
3	41	REF	7200-00352	ASSY, KIT HDW A/D PRINTER OPTION
	40	1	1134-00109	FUSE .3A SLO-BLO 120V
	39	1	7140-00423	ASSY, LB/KG SWITCH, MODEL 5835W
	38	0.5	1157-00107	HEAT SHRINK, 3/4 IN BLK
	37			
	36	11	1029-00107	WSHR FLAT #GSTL CAD
	35	5	1025-00114	NUT, HX KEP 6-32
	34			
	33	1	1069-00919	BRACKET L/H
	32	19	1006-02604	SCR SEMS G-32 X 3/8
	31	4	1001-02610	SCR PHIL PAN G-32 X 1/2
	30	2	1031-00091	WASHER LOCK 1/4
	29	2	1007-00189	SCR HX SOC HD 1/4 X 28 NFX 3/4
	28			
	27	4	1025-00130	NUT KEP 10-32
	26	2	1067-00925	SUPPORT, BATTERY BRACKET CLAMP
	25	2	1067-00924	BRACKET BATTERY CLAMP
	24	2	1069-01283	WSHR, CLAMPING
	23			
	22	1	1070-01311	PANEL, FRONT, 5835W
	21	8	1156-01040	LENS LED RED
	20	1	1142-00317	FUSE HOLDER
	19	1	1140-00226	POWER CORD
	18	0.3	1045-00214	URETHANE PAD
3	17	REF	7300-00567	ASSY KIT, 240V
	16	4	1075-00142	PAD, RUBBER, GRAY
	15	2	1074-00198	TIE, CABLE
	14	1	1074-00128	MOUNT, CABLE
	13	6	1044-00135	STAND OFF 1/2 IN
	12	1	7405 00336	ASSY PCB A-TO-D
	11	1	7405-00347	P.C.B. DISPLAY 5835W
	10	1	1028-00128	WASHER INT TOOTH CAD 6
	9	1	7140-00385	ASSY, CABLE, A C INPUT
	8	1	7140-00388	ASSY, CABLE, SWITCH
	7	1	7140-00386	ASSY, CABLE, DISPLAY
	6	1	7140-00328	ASSY, CABLE, JUMPER 120V
	5	1	1071-00574	BASE, COUNT/WEIGH SCALE PLATED & PAINTED
2	4	REF	7200000326	ASSY, LOAD CELL MOUNTING
	3	1	7148-00003	ASSY, BATTERY 5835
	2	1	7405-00333	ASSY, PCB DIGTL CONT & PWR SPLY
	1	1	1156-01041	LENS, GRN

BILL OF MATERIAL

APPLICATION	
5835W,100#	9511-00172
5835W,50 #	9511-00171
5835W25#	9511 00170
USED ON	NEXT ASS'Y

MATERIAL

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
X ± 1
XX ± 03
XXX ± 010
FRACTIONS ±
ANGLES °
MACH. FINISH ✓

	DWN	DATE
	M. ORR	1-29-80
CHK	RWM	3/26/80
ENG	RWM	3/26/80
MFG		

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

TITLE: ASSY, 5835W, BTRY, COUNT/WEIGH SCALE

CUST	DWG NO	REV
NCI	7511-00003	A
SCALE	JOB NO	SHT 1 OF 2
	5876	

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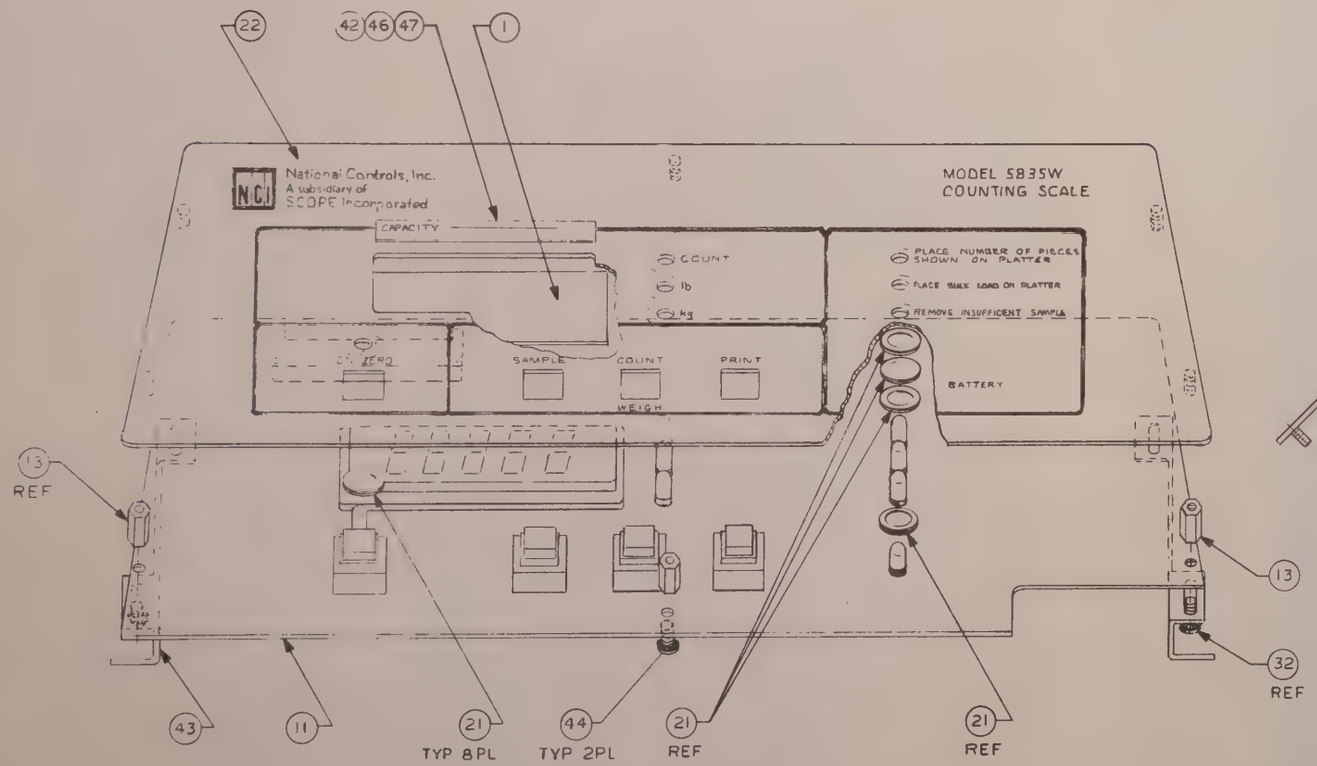
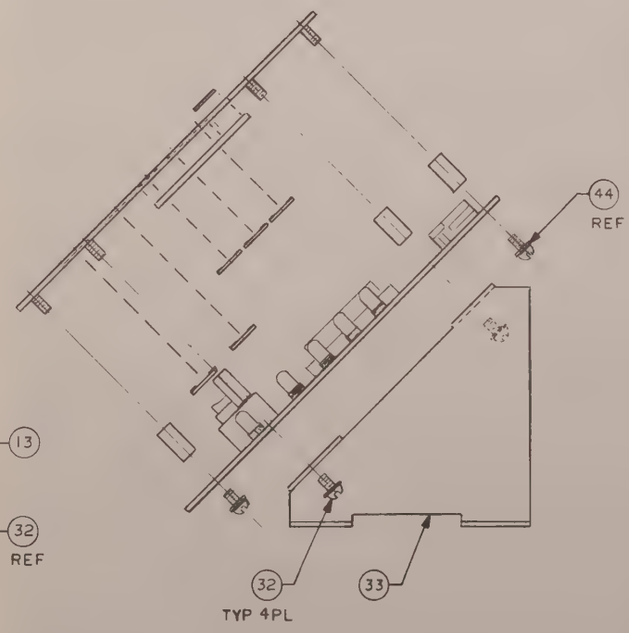
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
	- SEE SHEET ONE				





ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
X ± 1
XX ± 03
XXX ± 010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	T. Chin	1-29-80
CHK	RWRD	3/24/80
ENG	RWRD	3/26/80
MFG		

TITLE: ASSY, 5835W, BTRY, COUNT/WEIGH SCALE

CUST	DWG NO	REV
NCI	7511-00003	A

SCALE — JOB NO — SHT 2 OF 2

USED ON	NEXT ASS'Y
APPLICATION	

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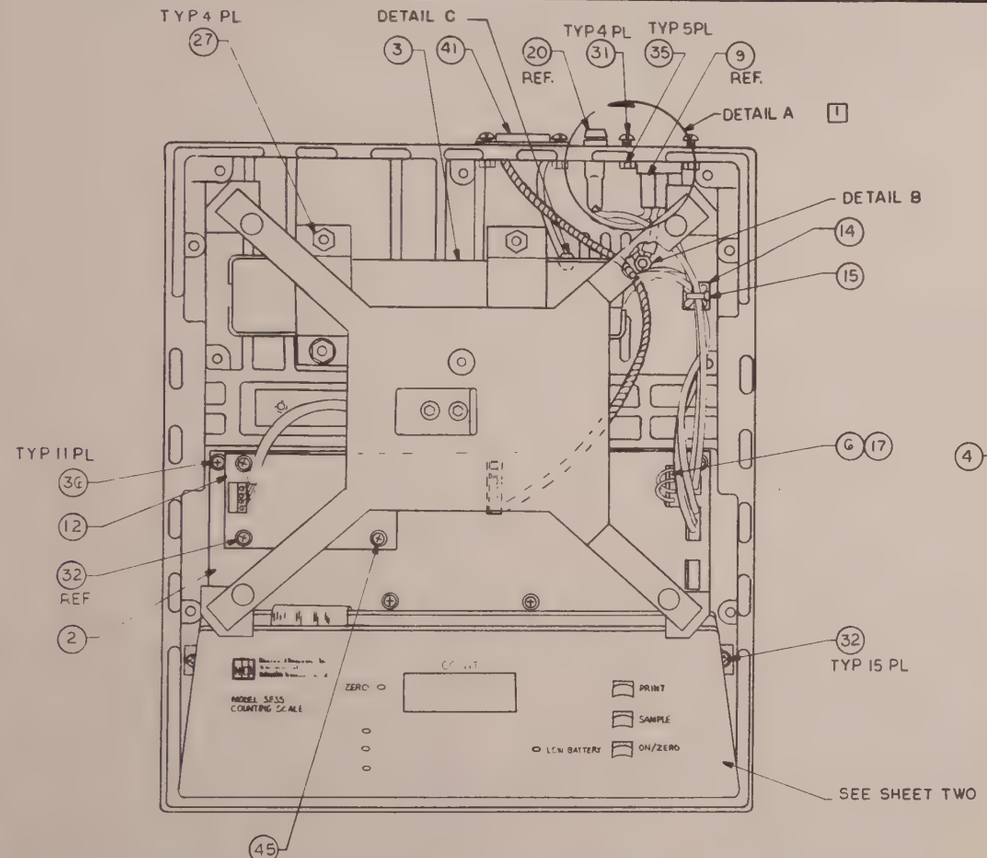
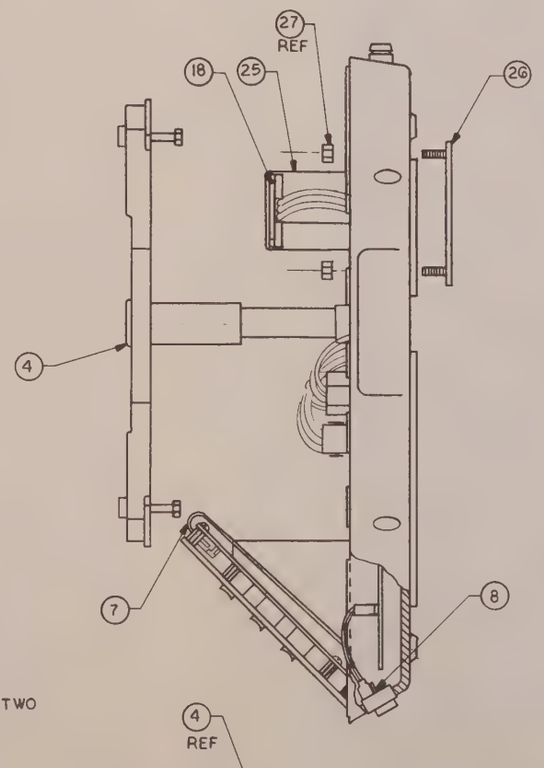
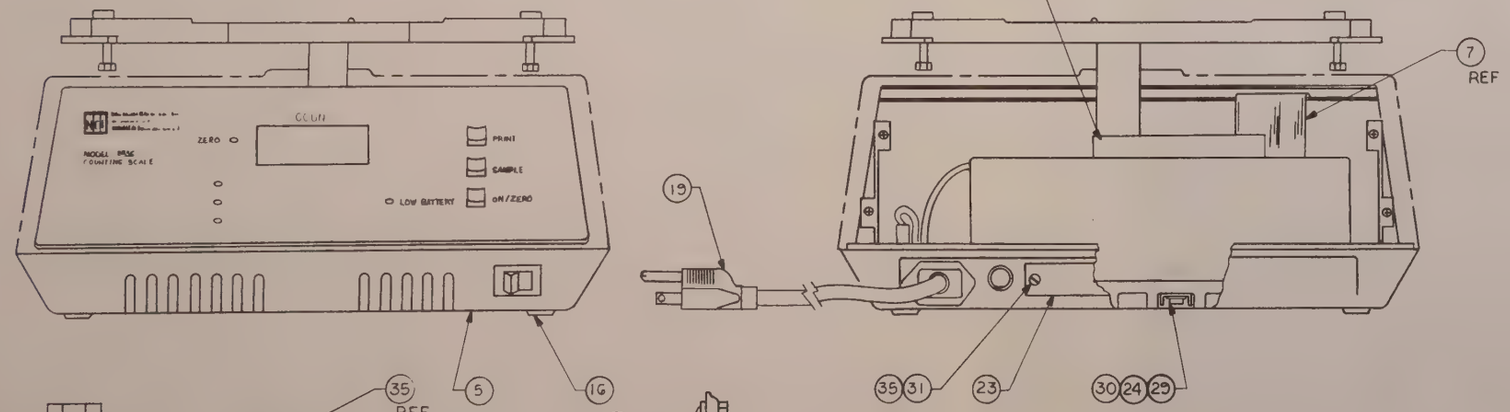
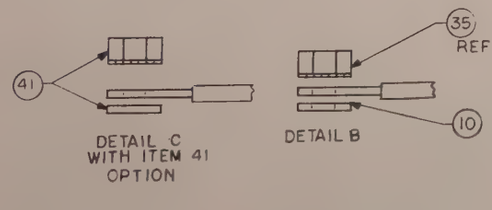
REVISIONS

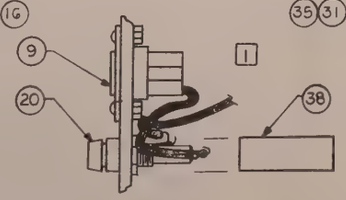
LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIG ISSUE	—	J.E.	RPO	12-7-79
B	CHG'D .001 QTY TO REF	1167	M O	gm	3-25-80
C	REMOVED SCREWS HOLDING ITEM 26	1199	M O	J.TH	4-22-80











NOTES: UNLESS OTHERWISE SPECIFIED

[1] DETAIL A: AFTER INSTALLING ITEM 20 SOLDER BLK WIRES REF DWG NO. 7140-00385. THEN INSTALL HEAT SHRINK OVER FUSE HOLDER & SHRINK. WIRES ARE TO PROTRUDE FROM END CLOSEST TO CASE.

[2] PER NEXT ASSY CALL OUT.

[3] OPTIONS - ASSY INSTRUCTIONS PER ASSY CALL OUT.

	ITEM	QTY	PART NO	DESCRIPTION / MAT'L
	48			
[2]	47	REF	1070-01283	LABEL CAP MAX 25LB / 12KG
[2]	46	REF	1070-01284	LABEL CAP MAX 50LB / 25KG
	45	1	1030-00107	FIBER WASHER
	44	2	1006-02598	SCREW G/32 X 1/4 SEM
	43	1	1069-00926	BRACKET R/H
[2]	42	REF	1070-01285	LABEL CAP MAX 100LB / 50KG
[3]	41	REF	7200-00328	ASSY KIT HDW A/D PRINTER OPTION
	40	1	1134-00109	FUSE .3A SLO-BLO 120V
[3]	39	REF	7200-00329	ASSY. KIT. SPANISH FRONT PANEL
	38	.5	1157-00107	HEAT SHRINK 3/4 IN BLK'
	37			
	36	11	1029-00107	WSHR FLAT#GSTL CAD
	35	5	1025-00114	NUT. HX KEP 6-32
	34			
	33	1	1069-00919	BRACKET L/H
	32	19	1006-02604	SCR SEMS G-32 X 3/8
	31	4	1001-02610	SCR PHIL PAN G-32 X 1/2
	30	2	1031-00091	WASHER LOCK 1/4
	29	2	1007-00189	SCR HX SOC HD 1/4 X 28 NFX 3/4
	28			
	27	4	1025-00130	NUT KEP 10-32
	26	2	1067-00925	SUPPORT, BATTERY BRACKET CLAMP
	25	2	1067-00924	BRACKET BATTERY CLAMP
	24	2	1069-01283	WSHR, CLAMPING
	23	1	1069-00940	COVER PLATE I/O
	22	1	1070-01268	FRONT PANEL
	21	5	1156-01040	LENS LED RED
	20	1	1142-00317	FUSE HOLDER
	19	1	1140-00226	POWER CORD
	18	.3	1045-00214	URETHANE PAD
[3]	17	REF	7300-00567	ASSY KIT, 240V
	16	4	1075-00142	PAD, RUBBER, GRAY
	15	2	1074-00198	TIE, CABLE
	14	1	1074-00128	MOUNT, CABLE
	13	6	1044-00135	STAND OFF 1/2 IN
	12	1	7405-00336	ASSY PCB A-TO D
	11	1	7405-00334	P.C.B. DISPLAY 5835
	10	1	1028-00128	WASHER INT TOOTH CAD 6
	9	1	7140-00385	ASSY CABLE A C INPUT
	8	1	7140-00388	ASSY CABLE SWITCH
	7	1	7140-00386	ASSY CABLE DISPLAY
	6	1	7140-00328	ASSY CABLE JUMPER 120V
	5	1	1071-00574	BASE COUNTING SCALE
[2]	4	REF	720000326	ASSY LOAD CELL MOUNTING
	3	1	7148-00003	ASSY BATTERY 5835
	2	1	740500333	ASSY PCB DIGTL CONT & PWR SPLY
	1	1	1156-01041	LENS GN

BILL OF MATERIAL

5835/100*	9511-00165
5835/50*	9511-00164
5835/25*	9511-00163
USED ON	NEXT ASS'Y

APPLICATION

MATERIAL

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ±.1
.XX ±.03
.XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

DWN	EVANS	DATE 1-8-80
CHK		DATE 1-9-80
ENG		DATE 12-7-79
MFG		DATE 12-11-79

National Controls, Inc.
A subsidiary of SCOPE Incorporated

TITLE: ASSY 5835. BTRY COUNTING SC

CUST	DWG NO	REV
NCI	7511-00002	C
SCALE —	JOB NO 5747	SHT 1 OF 2

37

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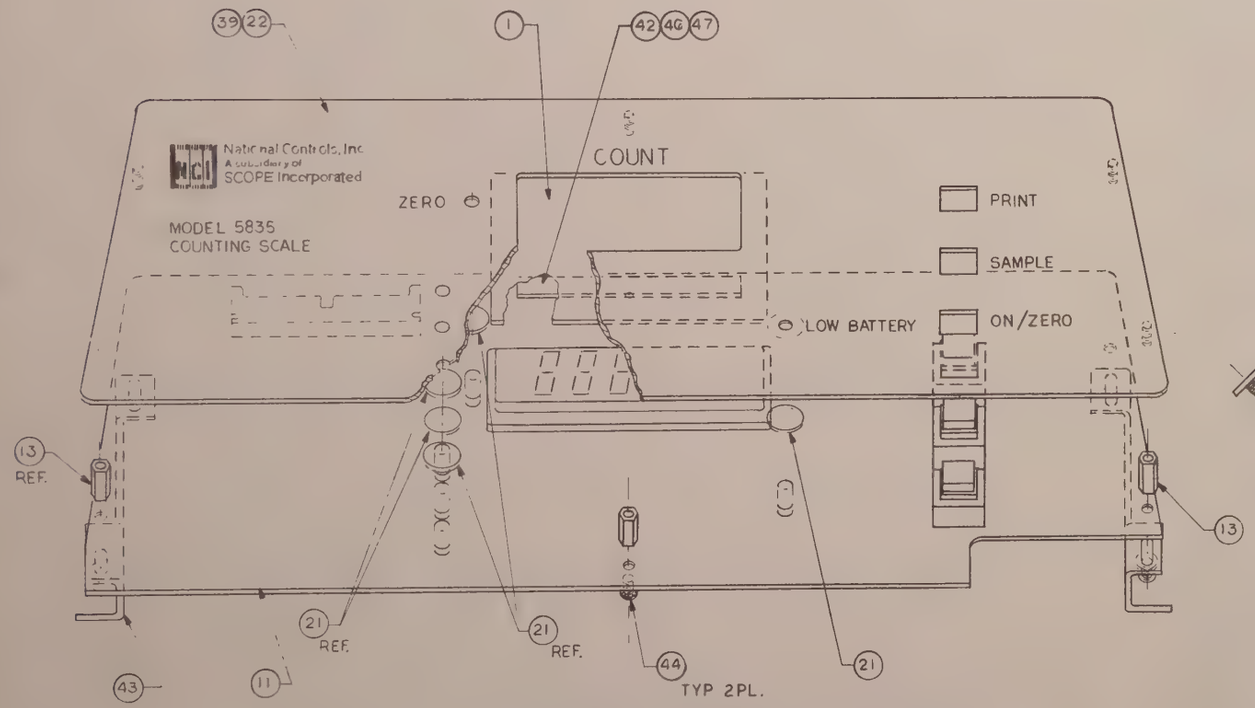
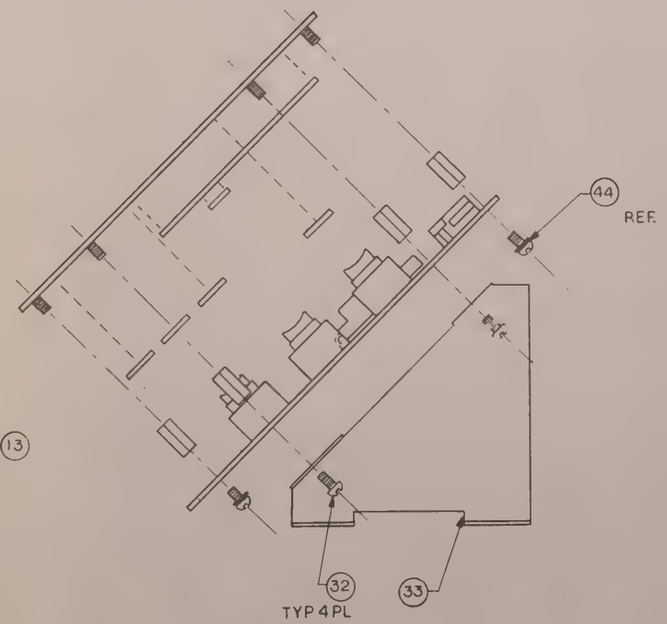
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
	SEE SHEET ONE				





ITEM	QTY	PART NO	DESCRIPTION / MAT'L
			BILL OF MATERIAL

MATERIAL: SEE B/M SHEET ONE

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

5835/100*	9511-00165
5835/50*	9511-00164
5835/25*	9511-00163
USED ON	NEXT ASS'Y
APPLICATION	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ± 1
.XX ± .08
.XXX ± .010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	EVANS	1-8-80
CHK		
ENG		
MFG		

TITLE: ASSY 5835 BTRY COUNTING SC

CUST	DWG NO	REV
NCI	7511-00002	C
SCALE	JOB NO 5747	SHT 2 OF 2

35

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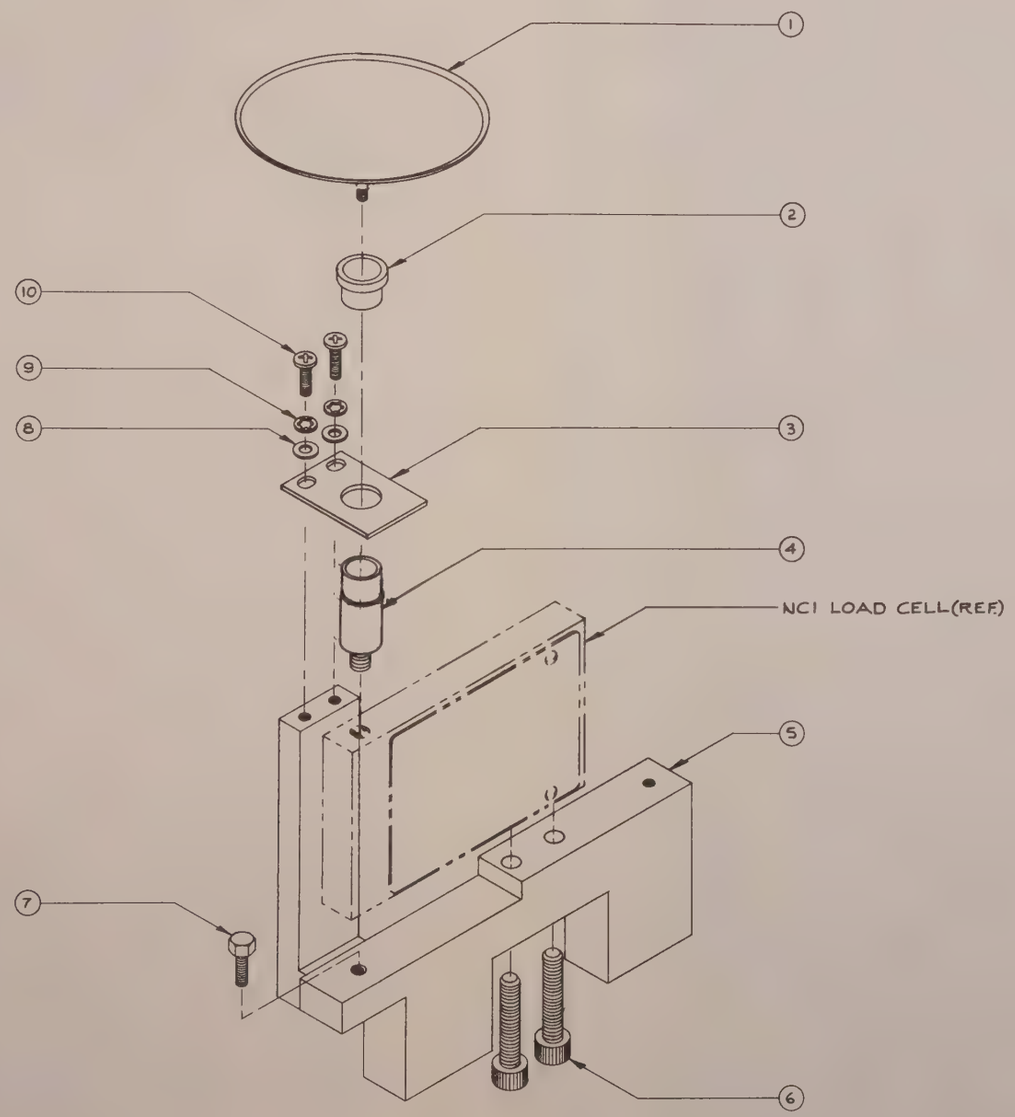
APPLICATION	
USED ON	NEXT ASS'Y
5800 & 5810	8511-00141

REVISIONS				
LETTER	DESCRIPTION	E.C.	DATE	APPD.
A	ORIGINAL ISSUE	542	8/24/72	[illegible]
B	CHANGED ITEMS 3 AND 4	589	10/16/72	[illegible]



QTY	ITEM NO.	DESCRIPTION	PART NO.	MATERIAL
2	10	SCR., 6-32 × .5, PAN HD., PHL.	1001-02610	
2	9	LOCK WASHER, INT TOOTH, #6	1031-00128	
2	8	FLAT WASHER #6	1029-00107	
1	7	SCR., LONG LOK, 8-32 × .5	1006-00275	
2	6	SCR, HXS, 1/4-20 × 1.25	1007-00140	
1	5	ASS'Y., BRIDGE, L.C., MK III	7200-00231	
1	4	PLATTER ADAPTER	1066-00247	
1	3	GUIDE PLATE	1069-00835	
1	2	TOLERANCE RING	1066-00233	
1	1	ASS'Y., PLATTER, 2Lb	7200-00163	

BILL OF MATERIAL

MATERIAL

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS IN INCHES
.X ± .03 .XX ± .010
.XXX ± .005
FRACTIONS ± 1/32
ANGLES ± 1/2°
MACHINE FINISH √125

DR. SCB
CHK.
APPD. K.V.
DATE 8/24/72
SCALE NTS
CUSTOMER NCI STD.
JOB NO. —

TITLE ASS'Y., LOAD BRIDGE, 2 Lb., 5800 & 5810

NCI NATIONAL CONTROLS, INC. SANTA ROSA, CALIF.

DWG. NO. 7066-00381
SHEET 1 OF 1
REV. B

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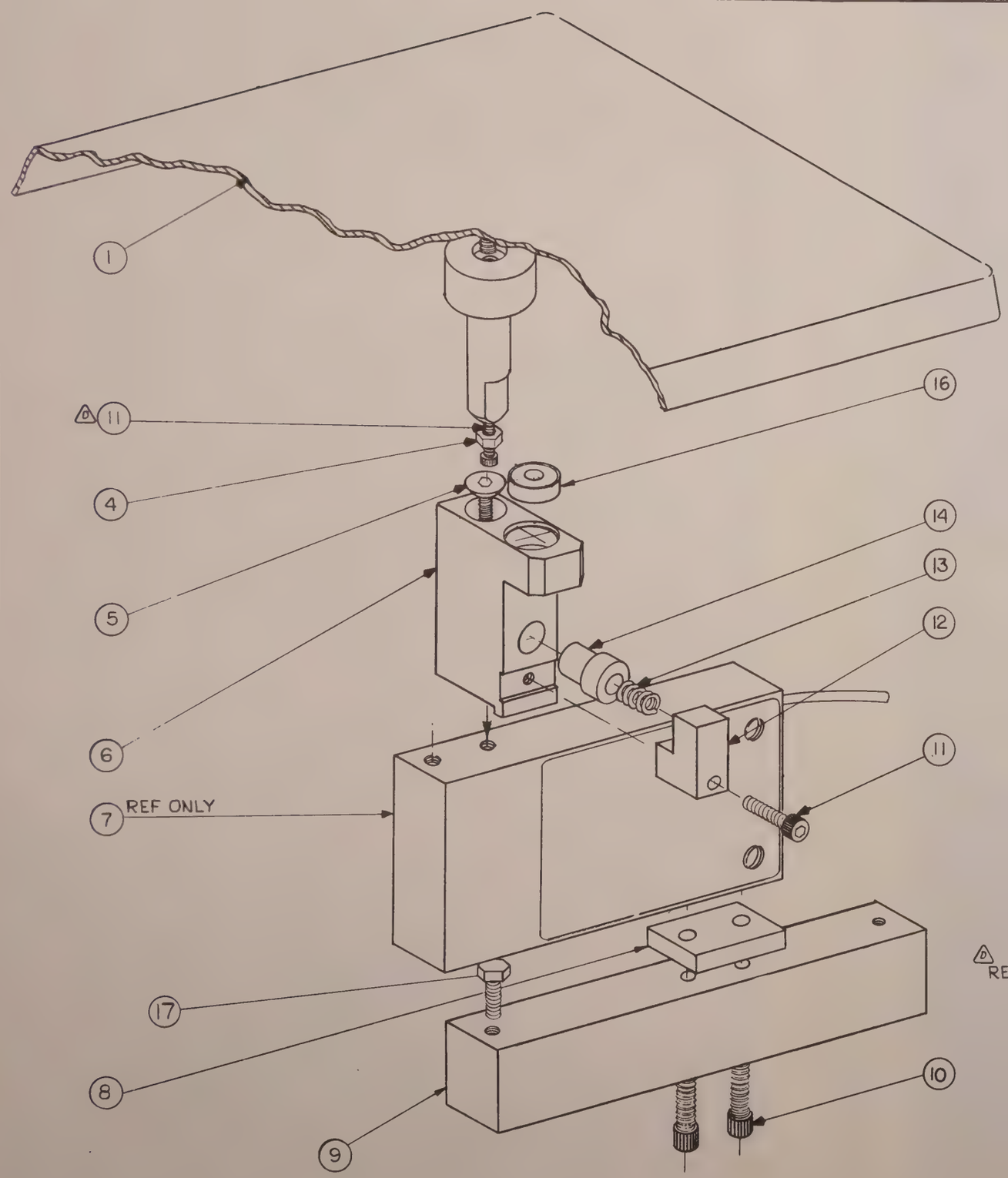
APPLICATION		REVISIONS			
USED ON	NEXT ASS'Y	LETTER	DESCRIPTION	DATE	APPD
5800/5810	8511-00141	A	ADD DOWEL	9-30-76	
		B	CORRECT SIZE ITEM-11-WAS 10-32	10-8-76	JK
		C	ELIM. SHIM (B:), OTH'R CHG'S ECO 171	1/16/76	J.T.H
		D	ADD REF TO ITEM (7) ~ CHG P/N: NEW NO. ADD ITEM 16 ~ ITEM 3 DELETED ITEM 11 WAS (1) DELETE ITEM 2 STEM ~ ITEM (1) WAS PLATTER DELETE ITEM 15 DOWEL ~ REV VIEW ITEM 6 & ITEM 9 ~ ADD ITEM 8 ECO 244	6-14-77 D.G	
		E	ADDED ITEM 17, REV ITEM 9 ITEM 8 WAS 1066-00241 318	10-27-77	
		F	CHAGED P/N ITEM 9 348	1-11-78	
		H	CHANGED P/N ITEM 8 415	3-31-78	



NOTE:
△D 1. TORQUE ITEMS 5 AND 10 TO 70 IN.-LB.

QTY	ITEM NO.	DESCRIPTION	PART NO.	MANUFACTURER CODE IDEN NO.	MATERIAL
1	17	SCREW, LONG LOK #8-32 X 1/2 LG.	1006-00275		
△D 1	16	BUBBLE, LEVELING	1083-00100		
△D	15				
1	14	PAD, SPRING	1066-00184		DELRIN
1	13	SPRING	1068-00142		
1	12	RETAINER, SPRING	1066-00191		ALUM ALY
△D 2	11	CAP SCREW, SOC. HD. #6-32 x 3/4	1001-03114		
2	10	CAP SCREW, SOC. HD 1/4-20 x 1 1/4	1007-00140		
1	9	BASE, LOAD CELL	1066-00213	NCI	ALUM
1	8	SPACER L.C. .250 THK	1043-00133		
△D REF. ONLY 1	7	MK III LOAD CELL -10 LB	7153-00794	NCI	ALUM
1	6	PLATTER ADAPTOR	1066-00198	NCI	ALUM
1	5	FLAT HEAD, SOC. SCREW 1/4-20 x 1/2	1007-00307		
1	4	NUT, HEX #6-32	1020-00122		
△D	3				
△D	2				
△D 1	1	ASSY., PLATTER, 10 LB	7200-00156		

BILL OF MATERIAL

MATERIAL ——

DR. RODNEY
CHK.
APPD. B. Cervantes

TITLE: ASSEMBLY, MK III, 10 LB, FOR 5800-5810

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS IN INCHES.
.X ± .03 .XX ± .015
.XXX ± .005
FRACTIONS ± 1/32
ANGLES ± 1/2°
MACHINE FINISH 250

DATE 9-27-76 | SCALE ~ | CUSTOMER N.C.I. | JOB NO. 5106

NCI NATIONAL CONTROLS, INC. SANTA ROSA, CALIF.

DWG. NO. 7200-00205 SHEET 1 OF 1 | REV. H

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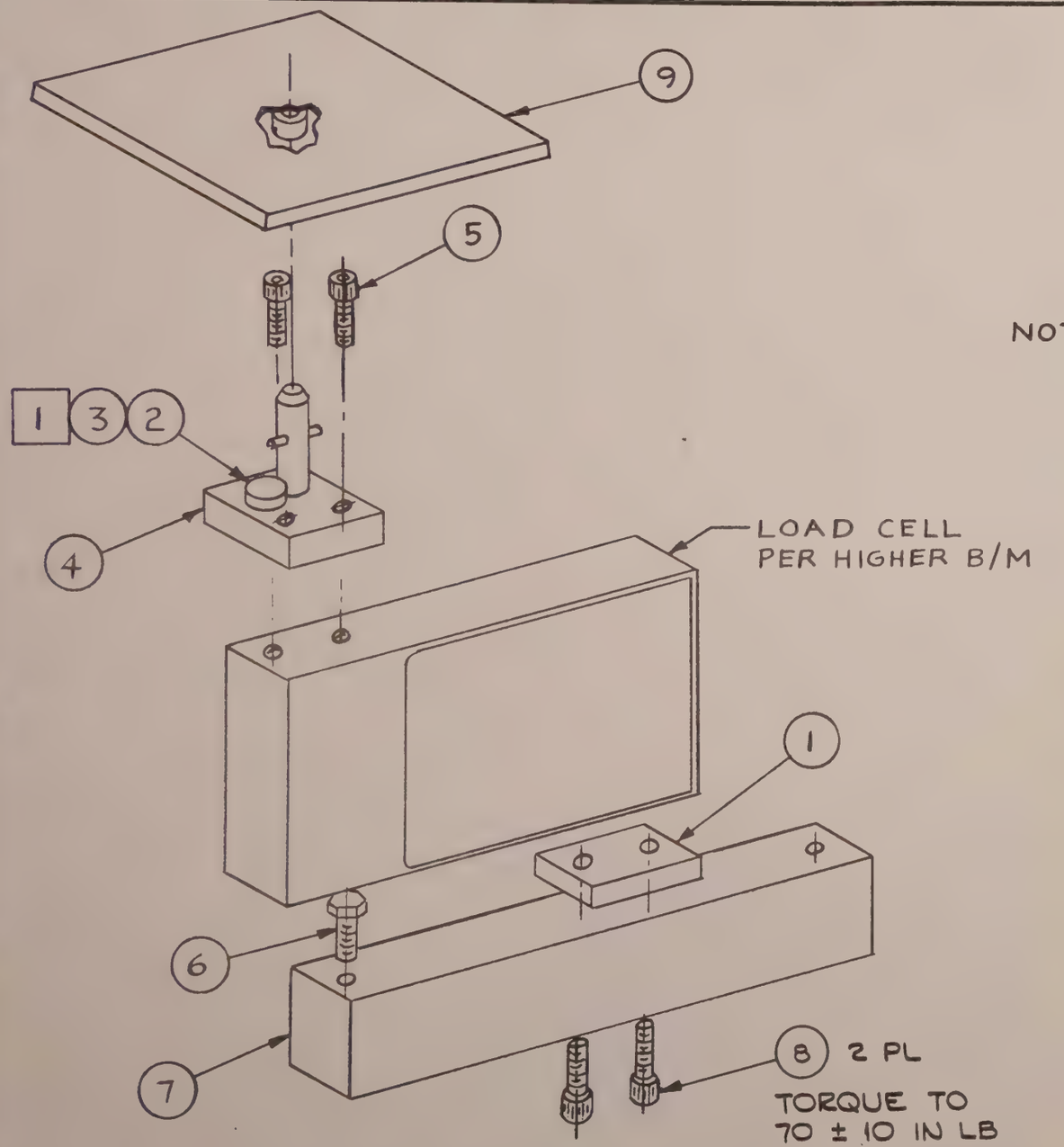
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	SUPERCEDES DWG 7200-00383.	1755	S.J.		4-15-81



NOTES:

1 WHEN CEMENTING LEVEL INDICATOR (2) TO ADAPTER (4):
- 1.1 PLACE LOWER SURFACE OF (4) FLAT ON A LEVELED SURFACE.
- 1.2 APPLY HOT MELT ADHESIVE (3) TO (4) IN BUBBLE AREA.
- 1.3 PRESS LEVEL INDICATOR INTO ADHESIVE AND CENTER BUBBLE IN INDICATOR CIRCLE.
- 1.4 ALLOW TO COOL AND REMOVE FROM FLAT PLATE.

		ITEM	QTY	PART NO	DESCRIPTION / MAT'L
.1		10		1070-01419	LABEL, CAPACITY, 5800/5810
1		9		1076-00242	PLATTER, CAST, 10 LB
2	2	8		1007-00140	SCREW, CAP HXS PLN 1/4-20 1.25 LG. STL CAD
1	1	7		1066-00213	BRIDGE, LOAD CELL, 10LB, MK3
1	1	6		1006-00275	SCREW, LLK 8-32 .50LG
2	2	5		1007-00137	SCREW, CAP HXS PLN 1/4-20 1.00LG. STL CAD
1	1	4		7067-00085	ASSY, PLATTER ADAPTER
.02	.02	3		1045-00133	ADHESIVE, BOSTIK 6323, HOT GLUE STICK
1	1	2		1083-00095	LEVEL BUBBLE
1	1	1		1043-00133	SPACER, .25 THK 1.25 L.G. L.C.
A	B	← REVISION		BILL OF MATERIAL	

5835M	9512-00037
5835W	7511-00005
5835	7511-00004
5800	9511-00136
	9511-00142

5810	9511-00157
USED ON	NEXT ASS'Y
APPLICATION	

7200-00414 / 7200-00383

MATERIAL

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ± .1
.XX ± .03
.XXX ± .010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	S.J.	3-27-81
CHK		DATE
		4-15-81
ENG		DATE
		4-15-81
MFG		DATE
		4-15-81

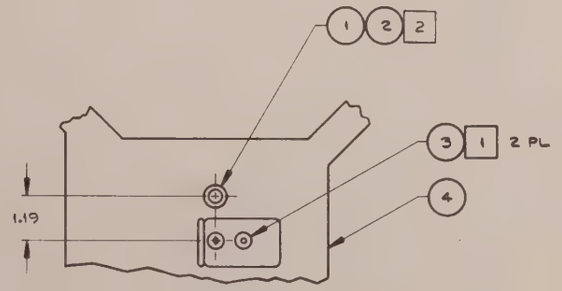
National Controls, Inc.
A subsidiary of
SCOPE Incorporated

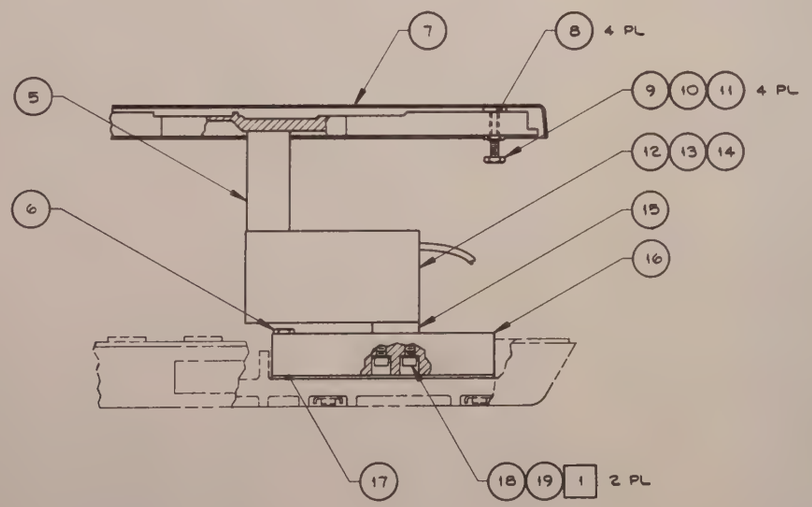
TITLE: ASSY, KIT, HARDWARE, PLATTER ADAPTER, 10 LB CTG, TAB

CUST	DWG NO	REV
NCI	8200-00004	A
SCALE —	JOB NO 405158	SHT 1 OF 1

6-80 TELEDYNE POST BLUTEX 18AF 10X10
REORDER NO. 68-266

REVISIONS					
LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	SUPERCEDES DWG 7200-00326.	1755	S.J.		4-15-81





NOTES:

1. TORQUE TO 70 IN-LBS.
2. SECURE LEVEL BUBBLE (ON 5835W) WITH ITEM 2 ON KNOWN FLAT/LEVEL SURFACE.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
20		1070-01419	LABEL, CAPACITY
19	2	1031-00091	WASHER, HEL
18	2	1007-00140	SCREW, HXS, 1/4-20, 1 1/4 L
17	1	1069-01290	PLATE, BEARING
16	1	1066-00231	SUPPORT, LOAD CELL
15	1	1043-00133	SHIM, LOAD CELL, .25 THK
14	REF	7140-00403	LOAD CELL, 100 LB
13	REF	7140-00402	LOAD CELL, 50 LB
12	REF	7140-00401	LOAD CELL, 25 LB
11	4	1022-00101	NUT, HEX, 1/4-20
10	4	1006-03980	SCREW, HEX HD, 1/4-20, .88 L, LLK
9	4	1006-03979	SCREW, HEX HD, 1/4-20, .75 L, LLK
8	4	1075-00156	PAD, FELT
7	1	1076-00171	SHROUD, DRAWN
6	1	1006-00275	SCREW, HEX HD, 8-32, .50 L, LLK
5	1	1043-00193	SPACER, BRIDGE
4	1	1066-00321	LOAD BRIDGE
3	2	1007-00840	SCREW, HXS FLAT HD, 1/4-20, 3.25 L
2	.01	1045-00133	ADHESIVE, HOT MELT
1	1	1083-00095	BUBBLE, LEVELING, EMPIRE 360

← REVISION — BILL OF MATERIAL

7200-00413 100 LB	7200-00412 50 LB	7200-00411 25 LB	7200-00243	7200-00326
A	A	A	K	F

5835W/100LB	9511-00172
5835W/50LB	9511-00171
5835W/25LB	9511-00170
5835/100 LB	9511-00165
5835/50 LB	9511-00164

5835/25 LB	9511-00163
USED ON	NEXT ASS'Y

APPLICATION

MATERIAL

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ± .1
.XX ± .03
.XXX ± .010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	S.J.	3-30-81
CHK		4-15-81
ENG		4-15-81
MFG		4-15-81

National Controls, Inc.
A subsidiary of SCOPE Incorporated

TITLE: ASSY, KIT, LC, 25, 50, 100 LB COUNTING SCALE, TAB

CUST	DWG NO	REV
NCI	8200-00005	A
SCALE 1/2	JOB NO 405114	SHT 1 OF 1

9 78 TELEDYNE POST GLUTEX 66 726

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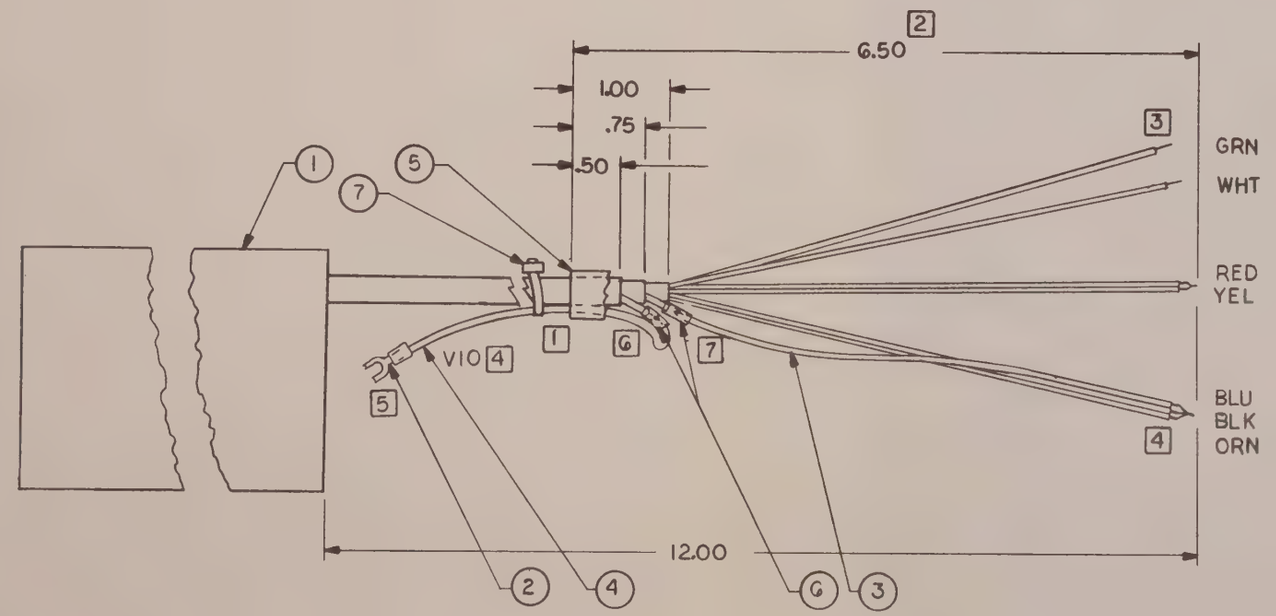
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIG ISSUE	—	J.E.	gm.	12-11-79
B	ADDED 2LB AND 10LB LOAD CELLS	1214	S.S.	RWW	4-28-80



NOTES: UNLESS OTHERWISE SPECIFIED

1. SLIDE HEAT SHRINK ITEM (5) ON CABLE.
2. TRIM ALL WIRES TO 6" FROM END OF MYLAR INSULATION BEING SURE MYLAR IS IN PLACE AND NOT BROKEN. IF INNER AND OUTER SHIELDS TOUCH, THE CABLE WILL HAVE TO BE RETERMINATED.
3. STRIP AND TIN ALL WIRE .375.
4. STRIP AND TIN ORN. AND VIO. WIRES BOTH ENDS
5. CRIMP AND SOLDER SPADE LUG TO VIO. WIRE.
6. OUTER SHIELD DRAIN WIRE
7. INNER SHIELD DRAIN WIRE
8. PARTS COMMON TO ALL 7140-XXXXX ASSYS.

ASSY NUMBER	REV	TABLE-A-	CAPACITY	NK	USED ON	NEXT ASSY
7140-00401	A	7153-00822	25LB .015CNTG	111	5835/W	9511-00163/9511-00170
7140-00402	A	7153-00850	50LB .015CNTG	111	5835/W	9511-00164/9511-00171
7140-00403	A	7153-00879	100LB.015CNTG	111	5835/W	9511-00165/9511-00172
7140-00400	A	7153-00794	10LB .015 CNTG	111	5835W	9511-00169
7140-00415	A	7153-00766	2 LB .015CNTG	111	5835W	9511-00168

5835W-100LB	9511-00172
5835W-50LB	9511-00171
5835W-25LB	9511-00170
5835W-2LB	9511-00168
5835W-10LB	9511-00169
5835-25LB	9511-00163
5835-50LB	9511-00164
5835-100LB	9511-00165
USED ON	NEXT ASS'Y

APPLICATION

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
7	1	1074-00198	CABLE TIE
6	0.1	1157-00149	HEAT SHRINK 3/32 BLK
5	0.25	1157-00121	HEAT SHRINK 3/8 BLK
4	0.2	1139-00387	WIRE 20 AWG VIO. [8]
3	0.5	1139-00366	WIRE 20 AWG ORN.
2	1	1143-00345	LUG SPADE NO.6
1	1	TABLE A	ASSY LOAD CELL

BILL OF MATERIAL

MATERIAL: SEE B/M

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ±.1
.XX ±.03
.XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

DWN EVANS DATE 11-29-79
CHK [illegible] DATE 1-21-80
ENG RPO DATE 12-5-79
MFG [illegible] DATE 12-11-79

TITLE: ASSY CABLE LOAD CELL TERMINATION 5835 TAB

CUST NCI | DWG NO 8140-00012 | REV B
SCALE —— | JOB NO 5747 | SHT 1 OF 1

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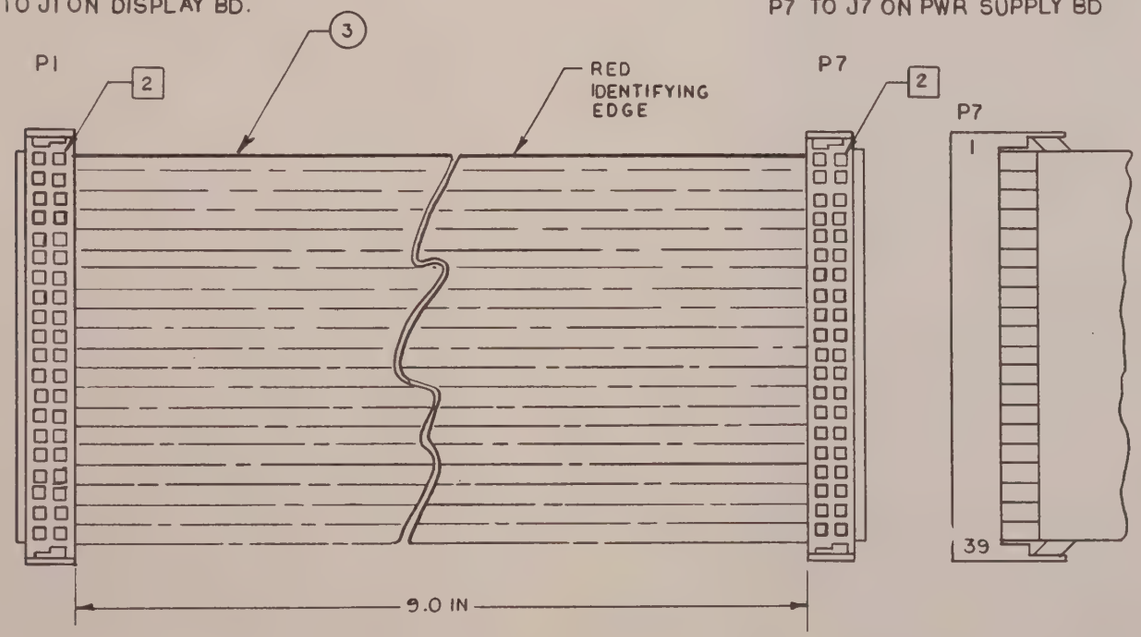
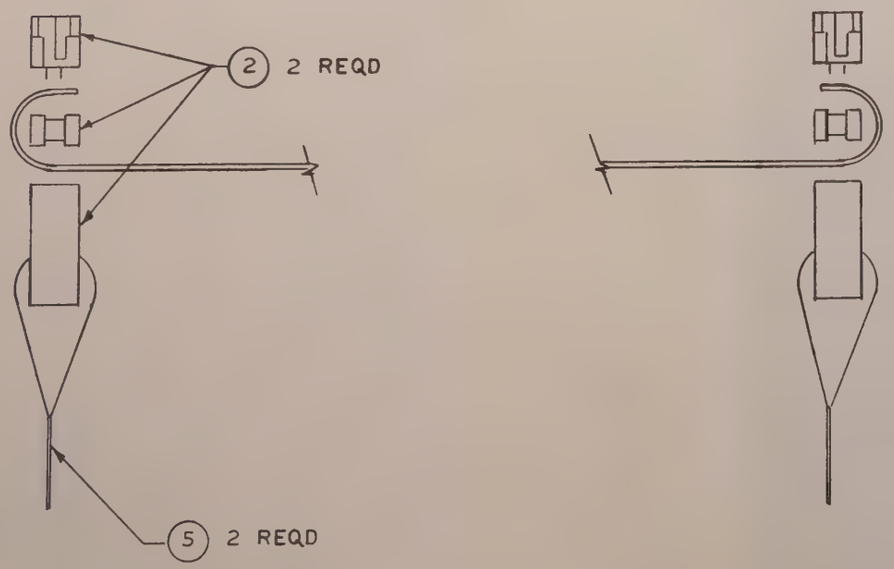
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIGINAL ISSUE	—	G.M.	RPO	10-10-79
B	CHANGE SKT CONN	1136	M.O.	RPO	4-7-80

P1 TO J1 ON DISPLAY BD.

P7 TO J7 ON PWR SUPPLY BD





NOTES: EXCEPT AS NOTED

1. CUT CABLE ITEM 3 PERPENDICULAR TO THE IDENTIFYING RED EDGE.
2. MOUNT THE CONNECTORS SO THAT THE RED IDENTIFYING EDGE OF CABLE ITEM 3, MATCHES THE IDENTIFYING MARKS, ▲, PIN 1, ON THE CONNECTORS.
3. CUT CA. LENGTH IS 11 IN.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
5	2	1161-00240	PULL TAB, 3M, 3490-4
4			
3	1.	1140-00212	CABLE, FLAT, 40 COND, 3M
2	2	1160-00288	CONN, 40 SKT CONN W/STR RLF
1			

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ±.1
.XX ±.03
XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	G.M.	10-10-79
CHK		DATE
		1-21-80
ENG		DATE
RPO		12-5-79
MFG		DATE
		12-11-79

TITLE: ASSEMBLY, CABLE, DISPLAY, 5835, BATTERY COUNTING

CUST	DWG NO	REV
NCI STD	7140-00386	B
SCALE 2:1	JOB NO 5747	SHT 1 OF 1

5835	7511-00002
USED ON	NEXT ASS'Y
APPLICATION	

6-78 TELEDYNE POST BLUTEX 66-726

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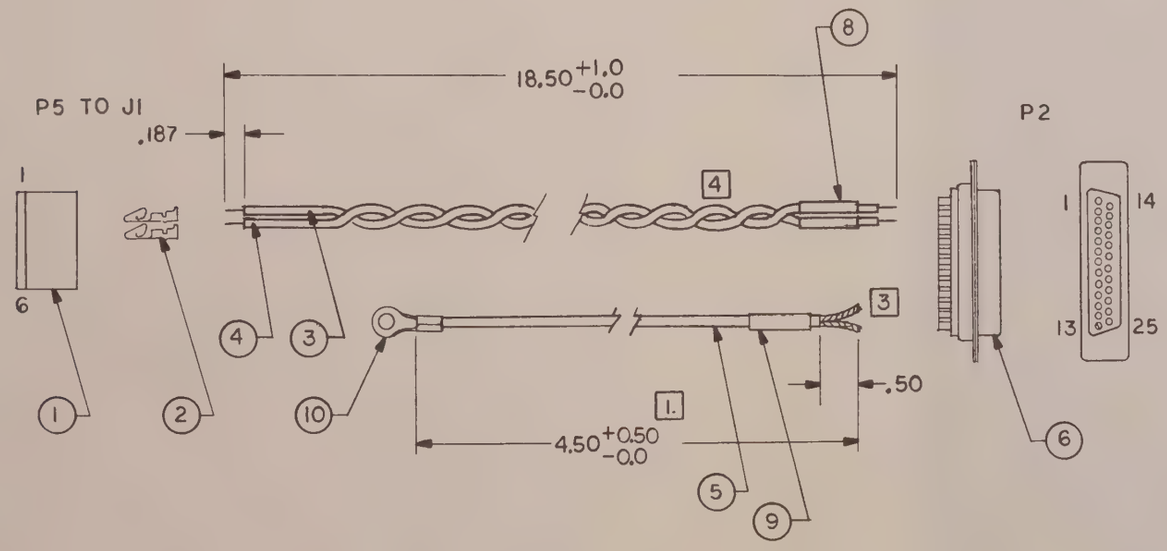
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIG ISSUE		J.E.	RPO	12-5-79
B	CHG'D PIN-OUT REFERENCE	1171	M.O.	MW	9-8-80



NOTES: UNLESS OTHERWISE SPECIFIED

1. CUT ITEM 3&4 21" LONG. CUT ITEM 5. 4 5/8 LONG.
2. STRIP AND TIN ALL WIRE
3. SEPARATE STRANDS SOLDER ONE HALF TO PIN 15 AND THE OTHER HALF TO 16 OF ITEM 6.
4. TWIST ALONG ENTIRE LENGTH.
5. 1130 PRINTER REQUIRES SPECIAL CABLE ASSY TO INCLUDE CHASSIS GROUND CONNECTION BETWEEN UNITS.

PIN ITEM 1	WRG CLR	AWG	PIN ITEM 6	FUNCTION
6	VIO	20	3	(LOOP IN +5V)
5	BLU	20	2	(LOOP IN OC)
	GRN	16	15 16	GND

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
11			
10	1	1143-00303	LUG, RING 14-16 AWG, #8
9	.1	1157-00135	TUBING SHRINK 3/16
8	.2	1157-00142	TUBING SHRINK 1/8 IN
7			
6	1	1158-00245	RECEP DBM 25 S
5	.5	1139-00499	WIRE 16 AWG GRN
4	1.7	1139-00387	WIRE 20 AWG VIO
3	1.7	1139-00352	WIRE 20 AWG BLU
2	2	1142-00337	PINS MOLEX
1	1	1161-00152	PLUG 6 PIN MOLEX

BILL OF MATERIAL

MATERIAL: ———

National Controls, Inc.
A subsidiary of SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ±.1
.XX ±.03
.XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

DWN EVANS	DATE 102575	
CHK [illegible]	DATE 1-21-80	
ENG R.P.O.	DATE 12-5-79	
MFG [illegible]	DATE 12-11-79	

TITLE: ASSY, CABLE, PRINTER, 5835 / 1130

CUST	DWG NO	REV
NCI	7140-00397	B
SCALE 1:1	JOB NO 5747	SHT 1 OF 1

5835	9511-00161
USED ON	NEXT ASS'Y
APPLICATION	

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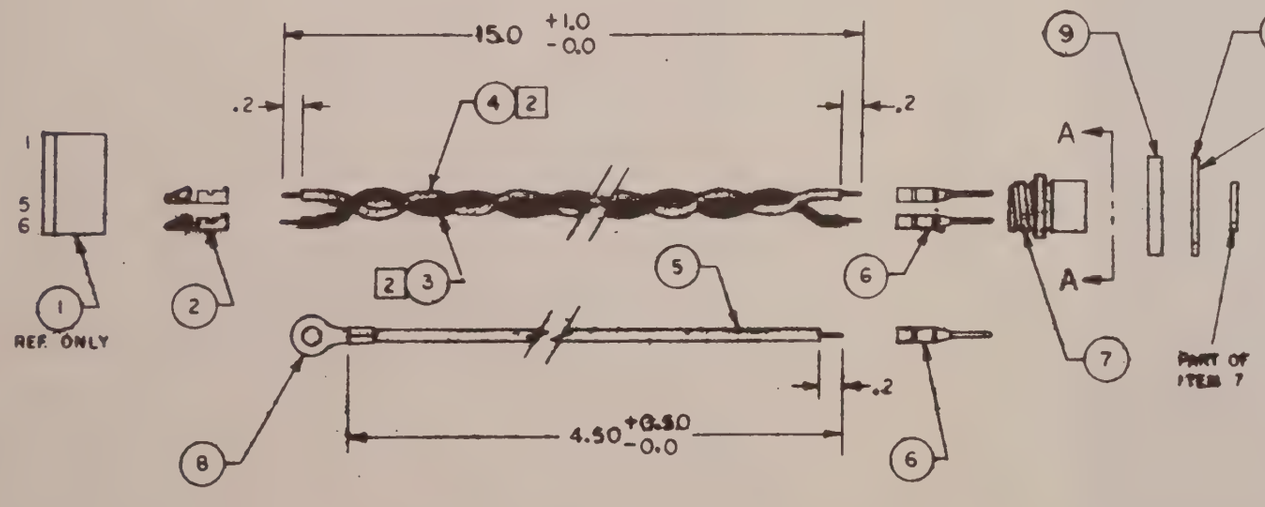
REVISIONS

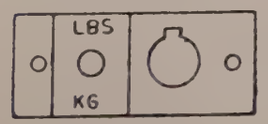
LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIG RELEASE		ORR		



NOTES: UNLESS OTHERWISE SPECIFIED
1. STRIP AND TIN ALL WIRES-.2 IN, BOTH ENDS
2. CUT WIRES, ITEMS 3 & 4, 17 IN. LONG. TWIST WIRES ALONG ENTIRE LENGTH.
3. PART OF 7140-00423

PIN ITEM 1	WIRE COLOR	AWG	PIN ITEM 7	FUNCTION
6	RED	24	4	(LOOP IN +5V)
5	YEL	24	9	(LOOP IN OC)
—	GRN	24	10	GND

VIEW A-A



DETAIL B

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
10	1	1070-01184	TAB, LABEL USE/RC
9	1	1069-01533	PLATE, COVER, PRINTER OPTION 5835W
8	1	1143-00324	LUG, RING, 22-18 AWG #6
7	1	1161-00172	HOUSING, 12 PIN, VIKING CONNECTOR
6	3	1142-00341	CONTACT VIKING, MALE
5	0.5	1139-00121	WIRE, 24 AWG, GRN
4	1.5'	1139-00128	WIRE, 24 AWG YEL.
3	1.5'	1139-00114	WIRE, 24 AWG RED
2	2	1142-00337	PINS, MOLEX
[3] 1	REF	1161-00152	PLUG, 6 PIN MOLEX

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ± 1
XX ± 03
XXX ± 010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	M. ORR	3-26-80
CHK	RWM	3/26/80
ENG	Rwm	3/26/80
MFG		

TITLE: ASS'Y, CABLE, PRINTER 5835W/1130

CUST	DWG NO	REV
NCI	7140-00426	A
SCALE: NONE	JOB NO: 5876	SHT 1 OF 1

5835W	7200-00352
USED ON	NEXT ASS'Y
APPLICATION	

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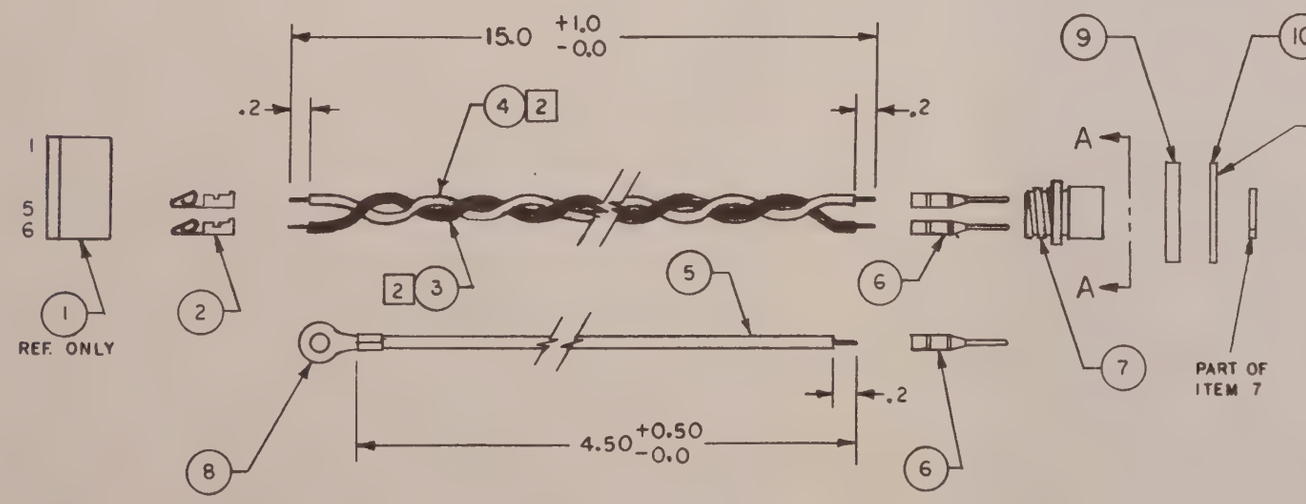
REVISIONS

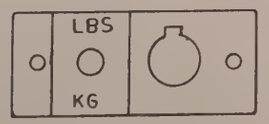
LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIG RELEASE		ORR	RWW	3/26/80
B	CHG'D ITEM 7 PIN OUT, LOOP OUT WAS LOOP IN	1801	MO	mw	4/10/81



NOTES: UNLESS OTHERWISE SPECIFIED
1. STRIP AND TIN ALL WIRES-.2 IN, BOTH ENDS.
2. CUT WIRES, ITEMS 3 & 4, 1.7 IN. LONG. TWIST WIRES ALONG ENTIRE LENGTH.
3. PART OF 7140-00423

PIN ITEM 1	WIRE COLOR	AWG	PIN ITEM 7	FUNCTION
6	RED	24	5	(LOOP OUT) +5V
5	YEL	24	6	(LOOP IN) OC
—	GRN	24	12	GND

VIEW A-A



DETAIL B

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
10	1	1070-01184	FAB, LABEL LBS/KG
9	1	1069-01533	PLATE, COVER, PRINTER OPTION, 5835W
8	1	1143-00324	LUG, RING, 22-18 AWG, #6 STUD
7	1	1161-00172	HOUSING, 12 PIN, VIKING CONNECTOR
6	3	1142-00341	CONTACT, VIKING, MALE
5	0.5'	1139-00121	WIRE, 24 AWG, GRN
4	1.5'	1139-00128	WIRE, 24 AWG, YEL
3	1.5'	1139-00114	WIRE, 24 AWG, RED
2	2	1142-00337	PINS, MOLEX
[3] 1	REF	1161-00152	PLUG, 6 PIN MOLEX

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
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SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ±.1
.XX ±.03
.XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	M. ORR	3-26-80
CHK	RWW	3/26/80
ENG	RWW	3/26/80
MFG		

TITLE: ASS'Y, CABLE, PRINTER, 5835W, CURRENT LOOP OUT

CUST	DWG NO	REV
NCI	7140-00426	B
SCALE: NONE	JOB NO: 5876	SHT 1 OF 1

5835W	7200-00352
USED ON	NEXT ASS'Y
APPLICATION	

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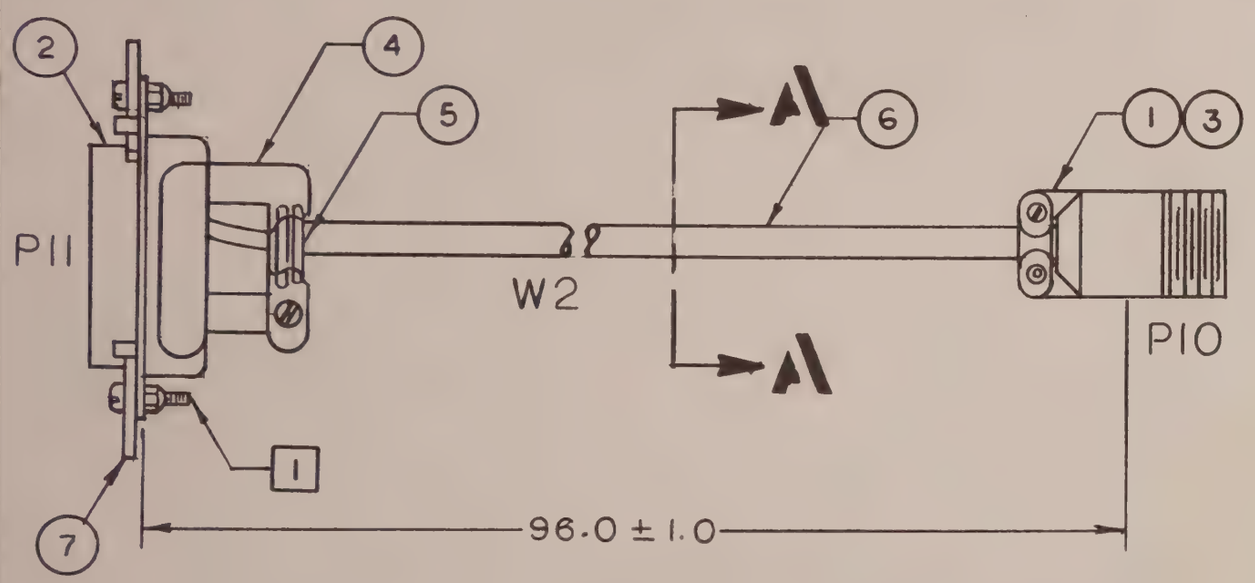
REVISIONS

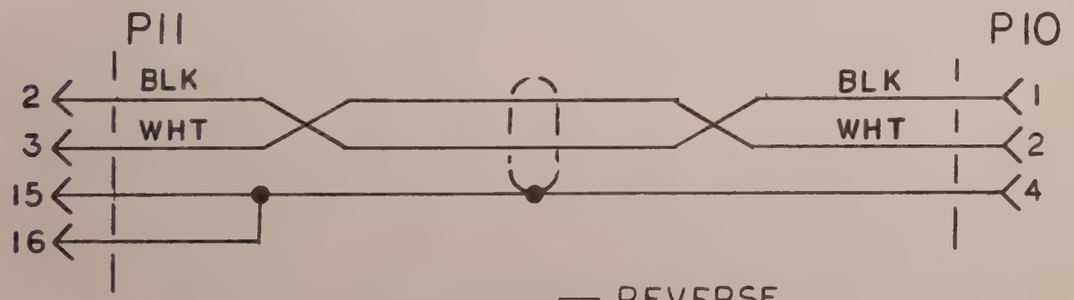
LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIGINAL ISSUE		G.M.	MW	3-12-81

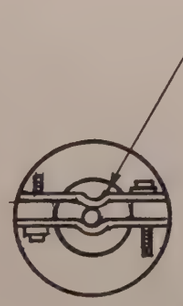


NOTES: UNLESS OTHERWISE SPECIFIED

[1] SCREWS AND NUTS ARE PART OF ITEM 4.

[2] ALL ITEMS SUPPLIED WITH 1130 PRINTER ASSY 9509-80021 EXCEPT 1 CONTACT OF ITEM 3.





SECTION A-A

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
7	REF	1073-80002	LATCH, END DISC
6	REF	1140-80000	CABLE, 24 GA, 2 COND, (BLK-WHT)
5	REF	1157-00246	GROMMET
4	REF	1161-80012	HOUSING, CABLE, P11
3	1	1142-00342	CONTACT, SOCKET, P10
2	REF	1161-80011	CONN., PLUG, P11
1	REF	1161-80003	CONN., PLUG, P10

[2]

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
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SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES	DWN	DATE
.X ± .1	G.M.	3-12-81
.XX ± .03	CHK Martin Wilcox	DATE 3/16/81
.XXX ± .010	ENG MW	DATE 3/16/81
FRACTIONS ±	MFG	DATE
ANGLES ±		
MACH FINISH ✓		

TITLE: ASSEMBLY, CABLE, INTERCONNECT 5835/1130

CUST	DWG NO	REV
NCI	7140-00489	A
SCALE —	JOB NO 405114	SHT 1 OF 1

5835	—
USED ON	NEXT ASS'Y
APPLICATION	

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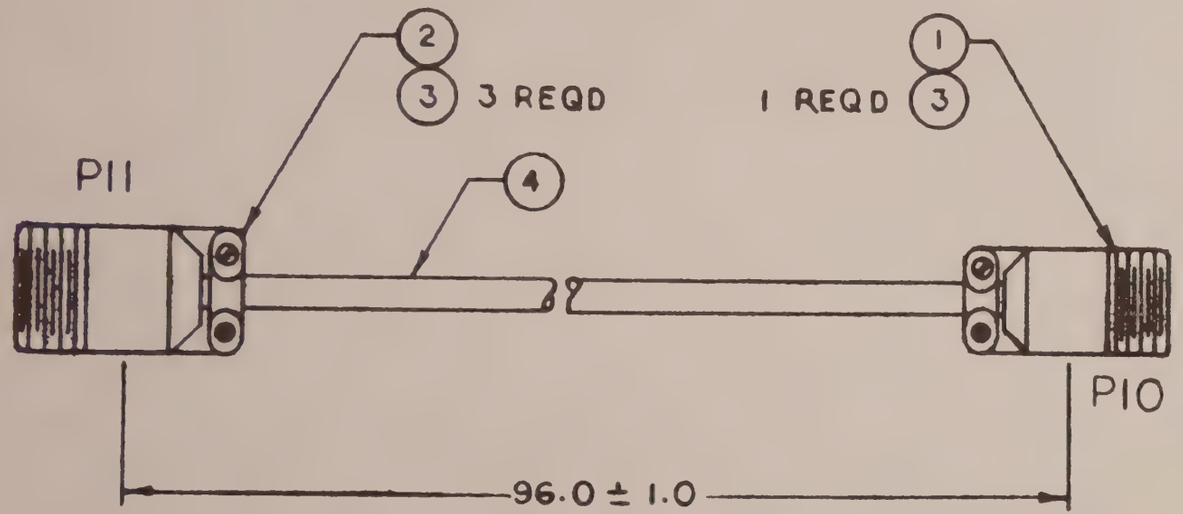
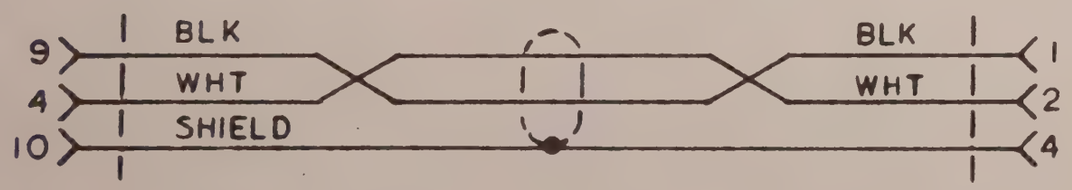
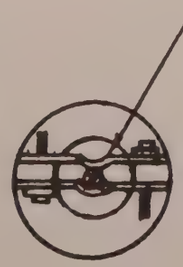
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIGINAL ISSUE		G.M.	MW	3-13-81







NOTES: UNLESS OTHERWISE SPECIFIED

1. ITEMS 1 AND 4 ARE SUPPLIED WITH 1130 PRINTER ASSY 9509-80021
2. ITEM 3: A TOTAL OF 6 CONTACTS ARE REQUIRED. 2 ARE SUPPLIED WITH 1130 PRINTER ASSY 9509-80021.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
1	4	REF	1140-80000 CABLE, 24 GA, 2 COND, BLK-WHT
2	3	4	1142-00342 CONTACT, SOCKET
	2	1	1161-00171 CONN. PLUG, 12 PIN
1	1	REF	1161-800003 CONN, PLUG, 7 PIN,

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
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SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES	DWN	DATE
.X ± .1	G.M.	3-13-81
.XX ± .03	CHK Martin Walker	DATE 3/16/81
.XXX ± .010	ENG MW	DATE 3/16/81
FRACTIONS ±	MFG	DATE
ANGLES ±		
MACH FINISH ✓		

TITLE: ASSEMBLY, CABLE, INTERCONNECT 5835W/1130

CUST	DWG NO	REV
NCI	7140-00490	A
SCALE —	JOB NO 405114	SHT 1 OF 1

5835W	—
USED ON	NEXT ASS'Y

APPLICATION

3-80 TELEDYNE POST BLUTEX 18AF
RECORDER NO. 69-248

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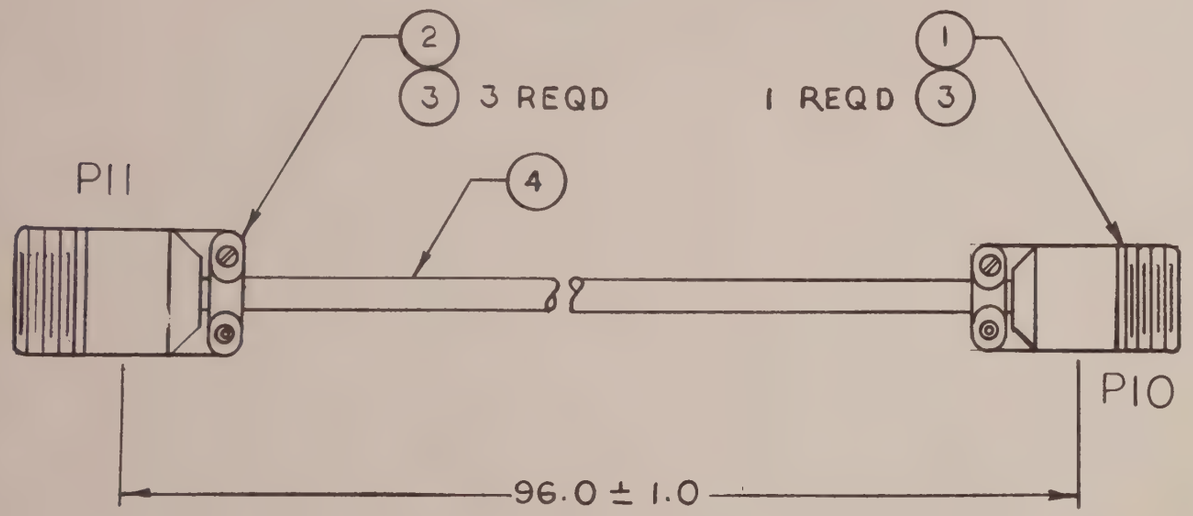
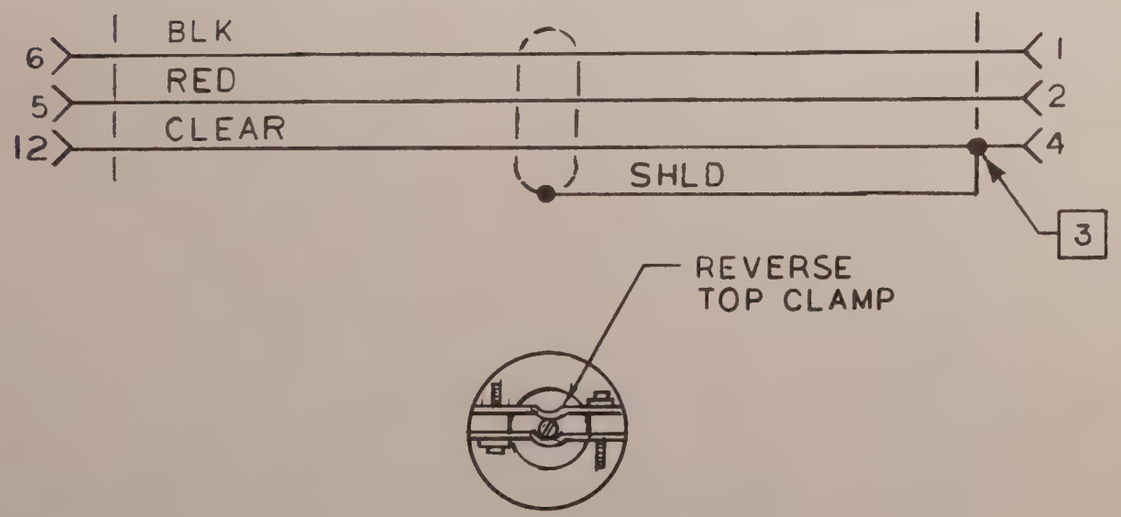
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIGINAL ISSUE		G.M.	MW	3-13-81
B	CHG'D P11 PINOUT & B/M, ADDED SHLD NOTE 3	1801	MO	MW	4/10/81





NOTES: UNLESS OTHERWISE SPECIFIED

1. ITEM 1 IS SUPPLIED WITH 1130 PRINTER ASSY 9509-80021.
2. ITEM 3: A TOTAL OF 6 CONTACTS ARE REQUIRED, 2 ARE SUPPLIED WITH 1130 PRINTER ASSY 9509-80021.
3. STRIP ALL EXPOSED CLEAR WIRE INSULATION. WRAP STRIPPED WIRE AROUND THE SHIELD WIRE AS CLOSE AS POSSIBLE TO THE OUTER JACKET. SOLDER THIS CONNECTION AND TERMINATE.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
4	8'	1140-00114	CABLE, 22 GA, 3 COND, SHIELDED
3	4	1142-00342	CONTACT, SOCKET
2	1	1161-00171	CONN. PLUG, 12 PIN
1	REF	1161-80003	CONN, PLUG, 7 PIN,

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ± .1
.XX ± .03
.XXX ± .010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

DWN	G.M.	DATE 3-13-81
CHK	Marion Wilcox	DATE 3/16/81
ENG	MW	DATE 3/16/81
MFG		DATE

TITLE: ASSY, CABLE, INTERCONNECT 5800/5850/5835 TO 1130

CUST	DWG NO	REV
NCI	7140-00490	B
SCALE ——	JOB NO 405114	SHT 1 OF 1

USED ON	NEXT ASS'Y
1130	9509-80021

APPLICATION

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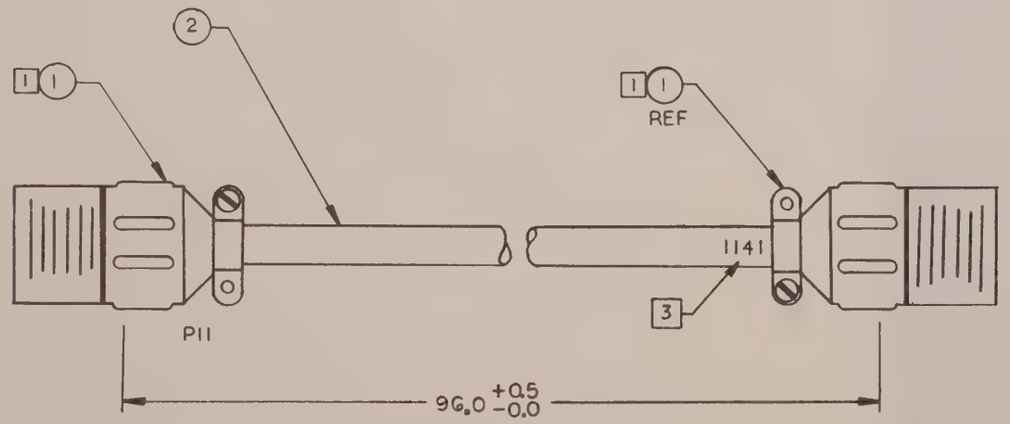
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIG ISSUE		JE	RWW	10/29/80
B	ADDED SHLD NOTE, P11 PINS WERE 9-4-10	1801	MO	MW	9/10/81



TYPICAL

NOTES: UNLESS OTHER SPECIFIED

1. STRIP WIRES 1/8" AND TIN CRIMP PINS TO WIRES AND INSERT INTO CONNECTOR.

[2] STRIP ALL EXPOSED CLEAR WIRE INSULATION. WRAP STRIPPED WIRE AROUND THE SHIELD WIRE AS CLOSE AS POSSIBLE TO THE OUTER JACKET. SOLDER THIS CONNECTION AND TERMINATE.

[3] WRITE MODEL NUMBER ON THIS END OF CABLE WITH INDELIBLE MARKER AS SHOWN.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
4			
3	6	1142-00342	CONTACT PINS
2	8 FT	1140-00114	CABLE 3 COND. 22GA. SHIELDED
1	2	1161-00171	CONNECTOR, PLUG, 12 PIN

BILL OF MATERIAL

MATERIAL —

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ±.1
.XX ±.03
.XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	EVANS	10-10-80
CHK	RWW	10/29/80
ENG	RWW	10/29/80
MFG		

TITLE: ASSY, INTERCONNECT CABLE, 5800/5850/5835W TO 1141

CUST	DWG NO	REV
NCI	7140-00466	B
SCALE —	JOB NO 405154	SHT 1 OF 1

1141	8509-00001
USED ON	NEXT ASS'Y
APPLICATION	

6-80 TELEDYNE POST BLUTEX 16AF 10X10
REORDER NO 68-266

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REVISIONS					
LTR	DESCRIPTION	ECO	DWN	APVD	DATE
B	PROD RELEASE		J.E.	RPO	12-5-79
C	CA. 7140-00397 PIN NO. CHG'S	1171	M.C.	[illegible]	4-3-80

PRINTER OPTION

ASSY BTRY 12V 5835 BTRY CNTG
7148-00003

ASSY KIT LC 25,50+100LB
7200-00326

W1

J1
ASSY PCB
A TO D
7405-00336
2
3
4

1,2,3,4 — 15-16-25 P2

W5 W6 W7

OPTL. ASSY. CA.
PRINTER
5835/1130
7140-00397

W2 W3 W4

1 NC 3 4 5 6 P5
1 NC 3 4 5 6 J1

ASSY CABLE 110V
JUMPER
7140-00328

1 NC 3 NC 5 NC 7
J2 1 NC 3 NC 5 NC 7

OPTL. ASSY. CA.
JUMPER-240V
7140-00329
1 NC 3 NC 5 NC 7
J2 1 NC 3 NC 5 NC 7

1 2 3
1 2 3 P6

7140-00385
ASSY CA AC
INPUT 5835
BTRY CNTG

W8 W9 W10

J3 P7
1 NC NC 1
3 3

LINE CORD 1140-00226

J4 P4
1 2 3
1 2 3

J5
1
2
3

ASSY PCB DIGITAL CONTROL
PWR SUPPLY 5835
7405-00333

J6 P3
1 1
2 2
W11
W12

ASSY CA SWITCH 5835 BTRY CNTG
1140-00388

J7 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
P7 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

ASSY CA. DISPLAY 5835 BTRY CNTG 7140-00386
W13

P1 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
J1 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

ASSY PCB DISPLAY 5835 7405-00334

5835	7200-00325
USED ON	NEXT ASS'Y
APPLICATION	

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
BILL OF MATERIAL			

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
X ± 1
XX ± 03
XXX ± 010
FRACTIONS ±
ANGLES ±
MACH. FINISH ✓

DWN EVANS 11-20-79
CHK [illegible] 12-1-80
ENG RPO 12-5-79
MFG [illegible] 12-1-79

TITLE: DIAG, WIRING, BTRY CNTG SC 5835

CUST NCI
DWG NO 8414-00688
REV C
SCALE
JOB NO 5747
SHT 1 OF 1

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REVISIONS					
LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	PROD RELEASE		ORR	RWM	3 26 80

ASSY, CA PRINTER INTERFACE
7140-80006 (REF)

PRINTER OPTION

ASSY BTRY 12V 5835 BTRY CNTG
7148-00003

ASSY KIT LC 25,50+100LB
10LB OR 2LB
SEE NOTE 1

W1

J1
ASSY PCB
A TO D
7405-00336

LB/K6
1 2 3 4 5 6 7 8 9 10 11 12 P2

W13 W14

W2 W3 W4

W5 W6

OPTL. ASSY. CA.
PRINTER
5835W/1130
7140-00426

W7

1 2 3 4 5 6 P5
1 2 3 4 5 6 J1

J2

ASSY CABLE 110V
JUMPER
7140-00328

1 NC 3 NC 5 NC 7
1 NC 3 NC 5 NC 7

OPTL. ASSY. CA.
JUMPER-240V
7140-00329

1 NC 3 NC 5 NC 7
J2 1 NC 3 NC 5 NC 7

7140-00385
ASSY CA AC
INPUT 5835
BTRY CNTG

1 2 3
1 2 3 P6

W8 W9 W10

J3 P7
1 NC 3
1 NC 3

P4 J4
1 2 3
1 2 3

J5
1 2 3

LINE CORD 1140-00226

ASSY PCB DIGITAL CONTROL
PWR SUPPLY 5835
7405-00333

J6 P3
1 2
1 2

W11 W12

ASSY CA SWITCH 5835 BTRY CNTG
1140-00388

J7 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
P7 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

ASSY CA. DISPLAY 5835 BTRY CNTG 7140-00386
W13

P1 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
J1 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

ASSY PCB DISPLAY 5835W 7405-00347

NOTES; UNLESS OTHERWISE SPECIFIED

NOTE	CAPACITY	NCI PART NO.
1	25, 50 & 100 LB	7200-00326
	10 LB	7200-00327
	2 LB	7066-00381

5835W	7200-00331/2
USED ON	NEXT ASS'Y
APPLICATION	

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
BILL OF MATERIAL			

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
X ± .1
XX ± .03
XXX ± .010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	M. ORR	1-30-80
CHK	RWM	3/26/80
ENG	RWM	3/26/80
MFG		

TITLE: DIAG, WIRING, BTRY COUNT/WEIGH, 5835W

CUST	DWG NO	REV
NCI	8414-00726	A
SCALE	JOB NO	SHT 1 OF 1
	405876	

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REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	PROD RELEASE	—	J.E.	RPO	12-5-79
B	ADD K1 VIEW, DELETE CR10	1101	J E	KPC	-22 ~
C	ADDED R66,67,C41, & 11-LBS/KG SWITCH	1119 1149	JB	[illegible]	3/20/80
D	R18 WAS 3.01K	1259	MO	[illegible]	6-24-80
E	RP4 WAS 39K IS 4.7K	434	J E		
F	ADDED NOTE 3.	1769	[illegible]	[illegible]	4-1-81

REF	NOT USED	LAST USED
C	C24	C44
CR	CR10	CR29
IC		IC 29
R	R29	R69

NOTES: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTOR VALUES ARE OHMS 5% 1/4W
2. ALL CAPACITOR VALUES ARE MICROFARADS.
3. ALL UNMARKED DIODES ARE IN4148.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

National Controls, Inc. A subsidiary of SCOPE Incorporated

DWN	DATE 10-5-79	TITLE	SCHEM, PCB, DIGITAL CONTROL & PWR SPLY, 5835
CHK	DATE -21-		
ENG Ron O	DATE 12-5-79	CUST NCI	DWG NO 8402-00333 REV F
MFG	DATE	SCALE	JOB NO 5747 SHT 1 OF 4

5835 W	
5835	7405-00333
USED ON	NEXT ASS'Y
APPLICATION	

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REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
	SEE SHT. ONE		MS	RH	12-5-79

SHT1, 2-D +12 CONTROLLED
SHT1, 2-D +12 WITH LINE CORD
SHT1, 2-D TIMER DISABLE
SHT1, 2-D V REF (2.500V)
SHT1, 2-C RAM CK
SHT1, 2-A SHUT DOWN (10 MINUTE TIMER)
SHT1, 2-B SLEEP DISABLE

CR9 IN4005
R56 2.7K
R54 680
CR24
Q9 2N3704
R55 1K
TEST POINT A
L1 1MH
CR22 IN4933
Q8 IN4921
E1 12V
E2 ANALOG GND.
R52 150K
CR23 IN 4005
R53 91K
25μS +33V 0

IC23 3524
15 VCC
R18 2.49K 1%
6 R_T
C26 .01
7 C_T
12
11
13
14
5
4
8
16 V REF
R36 10K 1%
REFRENCE ADJ R17 5K
R35 10K 1%
2
1
C25 .1
R33 348K 1%
9 COMP
10 REMOTE
0 SC 3
40 KHZ .7V 25μS
R37 20K 1%
C29 .22
R38 18.7K 1%
R64 5K
+5ADJ
R43 10K
R59 10K
CR15
C31 2.2 35V
R34 470

R40 47K
IC22 4027 A
16 VDD
10 J
13
11 K
15 Q
14 Q
3,4,5,6 7,8,9,12
C33 150PF
R61 2.2K
C32 150PF
R60 2.2K
R48 2.2K
R49 2.2K
Q4 2N3704
Q6 2N3704
Q5 2N5550
Q7 2N5550
C30 1000PF
R39 4.7K
Q3 2N3704

S2 5 4 RUN 6 TEST
C37 100 50V
R58 560 1W
R57 100 1/2 W
50μS 66V 0

R42 470
R41 470
IC27 15
R44 1K
R45 1K
S2 2 1 TEST 3 RUN

J7
1 2 6 11 16 19 26 29 34 39 40
5 +33VDC

T2
4 1N4005 (4PL) CR19 CR18 CR20 CR21
C36 150 15V
E3 -15VDC
R65 220K
10 3 3.3VAC
5 1 4 3.3VAC SHT 4, C-1
9 2 3
CR16 IN4933
CR17 IN4933
J7 E4 DIGITAL GND.
32 +5VDC
C34 150 15V
C1-8 .1 12,13,17 18,19,21,40 15 PLACES
C39 10 35V
+5VDC

ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

National Controls, Inc. A subsidiary of SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES	DWN MS Martin	DATE 10-9-79	TITLE SCHEM PCB DIGITAL CONTROL & PWR SPLY, 5835
.X ±.1 .XX ±.03 .XXX ±.010 FRACTIONS ± ANGLES ± MACH FINISH √	CHK	DATE	
	ENG Ron O.	DATE 12-5-79	CUST NCI
	MFG	DATE	SCALE —
			DWG NO 8402-00333 REV F
			JOB NO 5747 SHT 2 OF 4

5835/W	7405-00333
USED ON	NEXT ASS'Y
APPLICATION	

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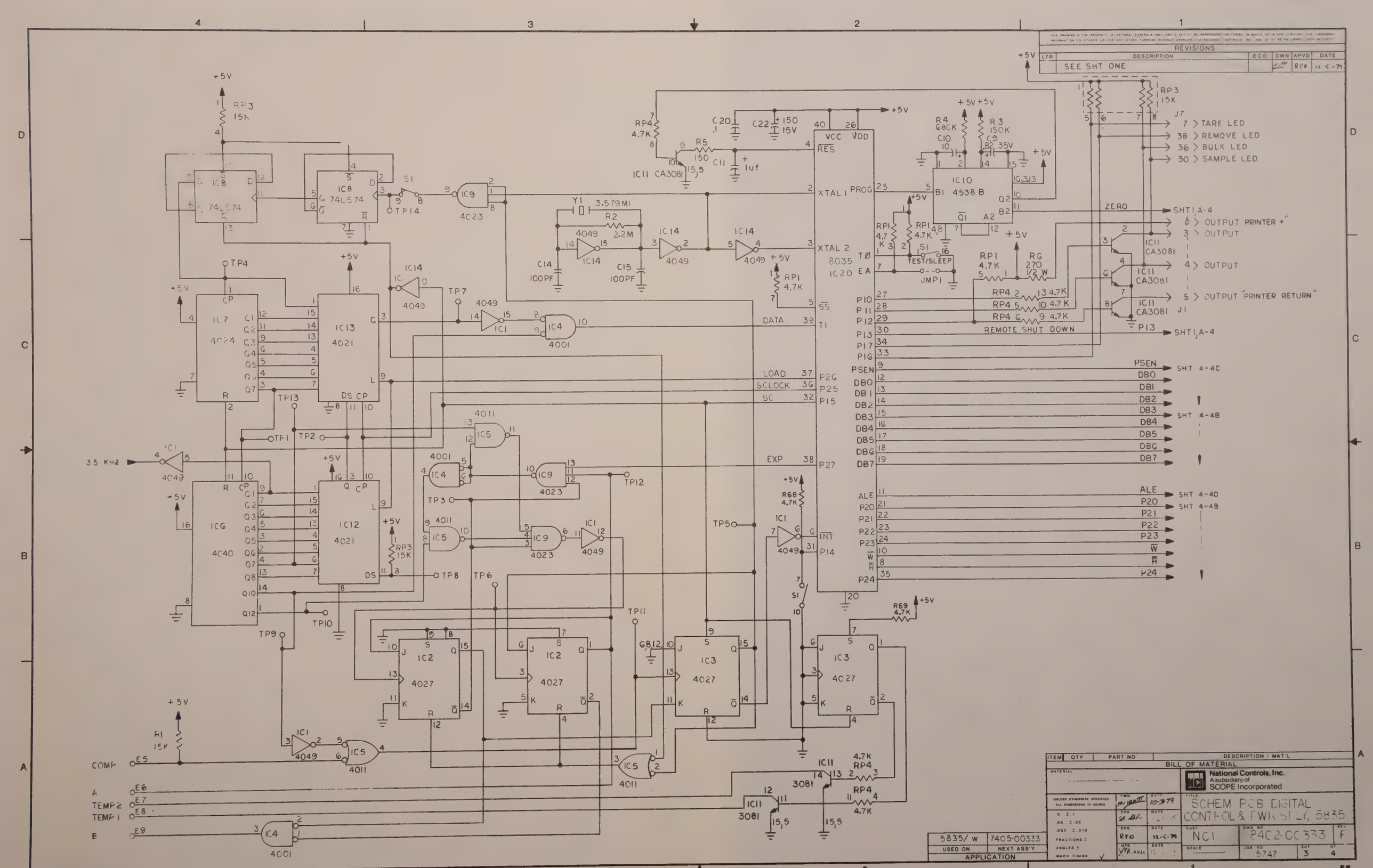

ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

5835/ W	7405-00333		
USED ON	NEXT ASS'Y		
APPLICATION			

DRWN	DATE 10-3-79	TITLE	SCHEM PCB DIGITAL CONTROL & FWR SFC, 5835
CHK	DATE		
ENG RPO	DATE 12-5-79	CUST NCI	DWG NO 8402-00333 REV F
MFG	DATE	SCALE	JOB NO 5747 SHT 3 OF 4

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REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
	SEE SHT ONE			RPO	12-5-79

SHT-3-B1-ALE
SHT-3-C1-PSEN
SHT-3-B2 DBC
DB1
DB2
DB3
DB4
DB5
DB6
DB7
P20
21
22
23
24
W
R

IC14 4049 — IC19 74LS377 (LATCH, D0–D7, Q0–Q7, CE, GND, VCC) — +5V

IC18 2716 — IC17 2716 — IC21 5101 (R/W, OE, CE1, CE2)

R66 5.6K — C41 47 PF

IC15 4512 B (ADDRESS C B A; INH, OE, VSS)

RP1 4.7K — RP2 15K — S1

J1 2 > LBS/KG
J1 1 > GND

S1-2 LB/KG
S1-3 CAL
S1-4, S1-5, S1-6 CAPACITY SELECT

PD — SHT1, D-4
+4V — SHT1, B-4
SHT 2, B-1

C23 10. — CR13 IN4005 — CR14 IN4005

RP4 4.7 K — PR — SHT1, D-4

RP1 4.7K

15> PRINT
17> SAMPLE
27> D1
31> D2
33> D3
35> D4
37> D5
24> D6
12> SA
28> SB
22> SC
8> SD
20> SE
18> SF
10> SG.
14> SDP
25> SH
J7

RP3 15K — +5V

IC14 4049 — IC4 4001 — IC1 4049

IC16 74C912
DECADE BCD CODE (K1 K2 K3 A B C D DP CE W)
DECADE ENABLE (GND, OSE, SOE)
7 SEGMENT DATA (D1–D6, SA–SG, SDP)
DECIMAL POINT SEGMENT

ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

5835/W	7405-00333
USED ON	NEXT ASS'Y
APPLICATION	

DRN	MJ Howell	DATE	10-2-79
CHK		DATE	
ENG	RPO	DATE	12-5-79
MFG		DATE	12-11-79

TITLE: SCHEM PCB DIGITAL CONTROL & PWR SPLY, 5835
CUST: NCI
DWG NO: 8402 00333
REV: F
JOB NO: 5747
SHT: 4
OF: 4

REVISIONS					
LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	PROD. RELEASE	—	J.E.		

TBI
E+ > 1
IN- > 2
IN+ > 3
E- > 4

L1 100uh
L2 100uh
L3 100uh
L4 100uh
C1 390
C2 100
C3 .01
C4 10
C5 2.2
C6 .47
C7 .47
C8 .01
C9 100
C10 1
C11 1
C12 .47
C13 .01
C14 .01
R1 549K 1%
R2 100K 1%
R3 1M OFFSET
R4 1% 2K
R5 1% 2K
R6 274K 1%
R7 249 1%
R8 1.5K 1%
R9 274K 1%
R10 1% 22.6K
R11 1% 47.5K
R12 1% 150K
R18 221K 1%
R19 10K 1%
R20 2K
R21 1K 1%
R22 49.9K 1%
IC1 OP07E
IC2 TL500
LM31T VRI
REF

+12 (2)
COMP (7)
A (5)
B (9)
GND (6)
-15V (8)

NOTES: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS VALUES ARE OHMS, 5%, 1/4 W.
2. ALL CAPACITOR VALUES ARE MICROFARADS.

LAST USED	
C	14
IC	2
L	4
R	22

NOT USED
R13,14,15,16,17
OUTPUT TERM. NO. 1,3,4

ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

National Controls, Inc.
A subsidiary of SCOPE Incorporated

ENG	EVANS	DATE	8-29-79
DRWN		DATE	
CHKD		DATE	
APVD		DATE	

TITLE: SCHEM P.C.B. ANALOG & A/D CONVERTOR MOD 5835

ORDER	SIZE	DWG NO	REV
NCI	B	8402-00536	A
SCALE		SHT 1 OF 1	

5835 USED ON

58

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REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	PROD RELEASE	—	J.E	[illegible]	12-5-79
B	CR1 & R23 ADDED, REMOVED L4, MOVED L3	1434	J.E	[illegible]	[illegible]
C	R20, 22, 23 & C12 WERE 2K, 49.9K, 200 1%, & .47uF MOVED L3 BACK REV A, MOVED R22, ADD NOTE 3	1525	MO	[illegible]	11/13/80

NOTES: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS VALUES ARE OHMS 5%, 1/4 W.
2. ALL CAPACITOR VALUES ARE MICROFARADS.
3. PRE TESTED DEVICE

LAST USED	
C	14
IC	2
L	3
R	23

NOT USED
R13,14,15,16,17
OUTPUT TERM. NO. 1,3,4

TB1
E+ > 1
IN− > 2
IN+ > 3
E− > 4

L1 100 uh
L2 100uh
L3 100uh
C1 390
R1 549K 1%
R2 100K 1%
R3 1M OFFSET
R4 1% 2K
R5 1% 2K
RG 274K 1%
R7 249 1%
R8 1.5K 1%
R9 274K 1%
LM317 VR1
C2 100
C3 .01
C4 10
IC1 OP07C* LNLD [3]
R10 1% 22.6K
R11 1% 47.5K
R12 1% 150K
C5 2.2
C6 .47
C7 .47
C8 .01
C9 100
CR1 9.1V
R23 (1.4) 220
C13 .01
IC2 TL500
C10 1
C11 1
C12 .22
R18 221K 1%
C14 .01
R19 10K 1%
R20 1K
R21 1K 1%
R22 60.4K 1%
+12. (2)
COMP (7)
A (5)
B (9)
GND (6)
−15V (8)

5835/W	7405-00336
USED ON	NEXT ASS'Y
APPLICATION	

ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
X ± 1
XX ± 03
XXX ± 010
FRACTIONS ±
ANGLES ±
MACH FINISH

DWN EVANS 8-29-79
CHK [illegible] 1-31-80
ENG [illegible] 12-5-79
MFG [illegible]

TITLE SCHEM P.C.B. ANALOG & A/D CONVERTOR MOD 5835
CUST NCI
SCALE —
DWG NO 8402-00336 REV C
JOB NO 5835 SHT 1 OF 1

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REVISIONS					
LTR	DESCRIPTION	E.C.O	DWN	APVD	DATE
A	PROD RELEASE	—	JE	Rm O	12-5-79
B	CR1 & R23 ADDED, REMOVED L4, MOVED L3	1434	JE		
C	R20,22,23 & C12 WERE 2K,49.9K,200 1% & .47 uF MOVED L3 BACK-REV A, MOVED R23, ADD NOTE 3	1525	MO		
D	ADDED 3 PT REG, MOVED LEAD TO U1	1554	MO		
E	TB1: ADDED PINS 5,6,7,8. ADDED NOTE 4.	1769			4-15-81

CR2 IN4005

LM317 VR2

R7 249 1%

+9VDC ADJUST

R8 2K 1%

C19 1

C13 .1

L3 10 uh → +12 . (2)

TB1

E+ > 1

2

R16 2K

R15 1.69M

OFFSET ADJUST

R17 0Ω

4 ANALOG GUARD

R23 2K

C16 .1

C2 150 15V

C3 .1

C4 10

L1 0.2 uh

IN− > 3

L2 0.2 uh

IN+ > 4

R4 1% 2K

R5 1% 2K

C1 390 pf

IC1 OP07C* LNLD [3]

R9 274K 1%

R10 1% 22.6K

R11 1% 47.5K

R12 1% 150K

C5 2.2

C6 .47

C7 .47

R6 274K 1%

C15 .1

IC2 TL500

+VCC

REF

ZERO

+IN

−IN

−VCC

DG

C10 1

4 CONVERTER GUARD

SPAN ADJUST

R19 10K 1%

R20 1K

R21 1K 1%

C11 1

R22 60.4K 1%

C12 .22

R18 221K 1%

C14 .1

COMP (7)

A (5)

B (9)

GND (6)

E− > 5

6

7

8

C8 .1

C9 150 15V

C18 10

C17 1

-9VDC ADJUST

R13 2K

R14 249

LM377 VR1

CR1 IN4005

L4 100uh → −15V (8)

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTORS VALUES ARE OHMS 5%, 1/4 W.
2. ALL CAPACITOR VALUES ARE MICROFARADS.
3. PRE TESTED DEVICE
4. GUARDS ARE PHYSICALLY LOCATED WITHIN PRINTED CIRCUIT BOARD CIRCUITRY.

LAST USED	
C	19
IC	2
L	-
R	23
CR	-

NOT USED
R1,2,3
OUTPUT TERM NO. 1,3,4

5835/W	7405-00336
USED ON	NEXT ASS'Y
APPLICATION	

ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

MATERIAL —

National Controls, Inc. A subsidiary of SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
X ±.1
XX ±.03
XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

DWN	EVANS	8-29-79
CHK	[illegible]	1-21-80
ENG	Rm O	12-5-79
MFG	Symons	

TITLE: SCHEM P.C.B. ANALOG & A/D CONVERTOR MOD 5835

CUST	DWG NO	REV
NCI	8402-00336	E
SCALE —	JOB NO 5835	SH 1 OF 1

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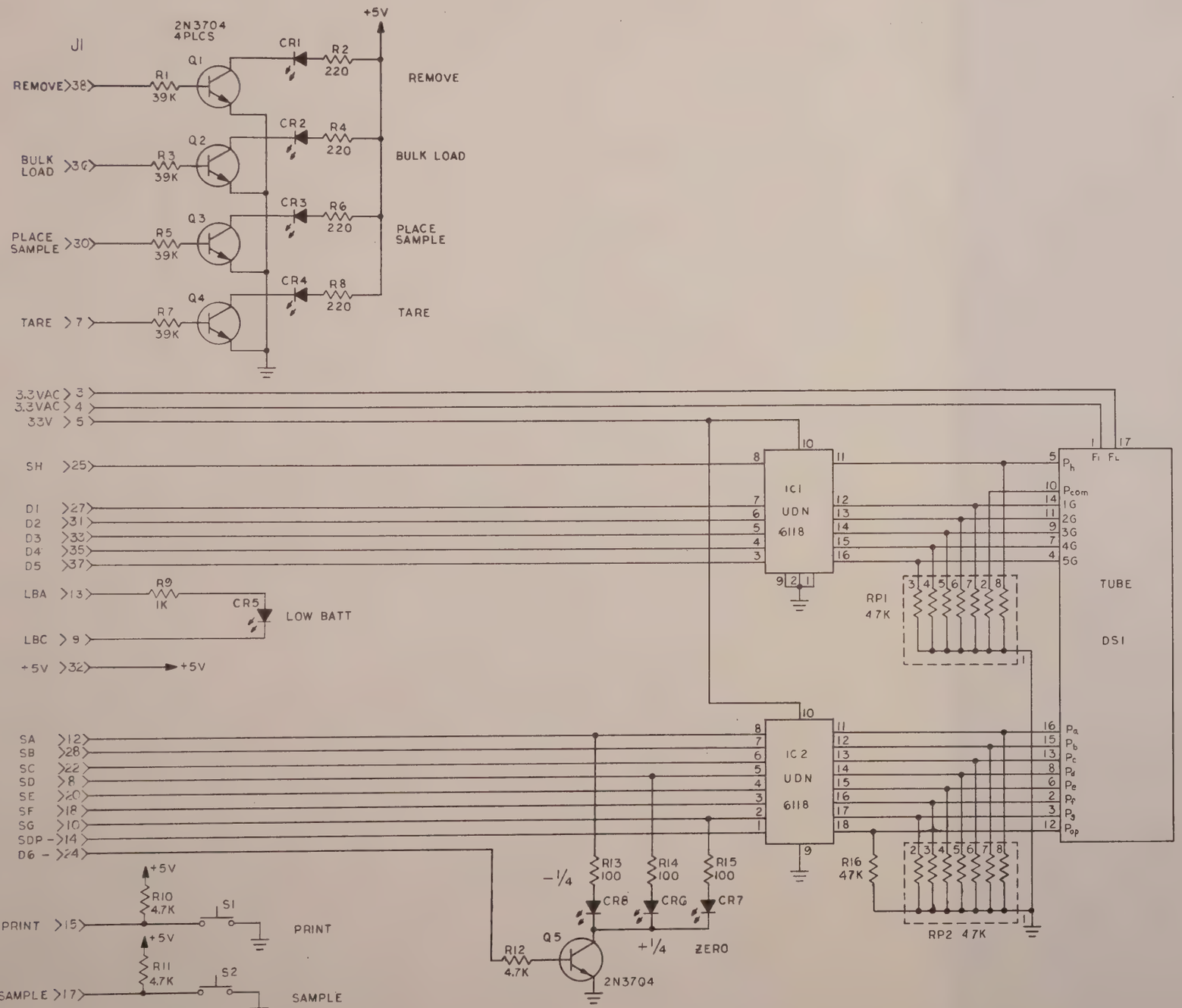
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	PROD. RELEASE	—	J.E.	Ron O	12-5-79
B	CHANGE CONN PIN J7	1149	[illegible]	[illegible]	5/20/80



REF	NOT USED	LAST USED
CR		CR8
IC		IC 2
R		R16
RP		RP2
S		S3
Q		Q5

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTOR VALUES ARE IN OHMS, 5%, 1/4W.
2. J1 PINS 1,2,6,11,16,19,26,29,34,39,40 GO TO GND.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ±.1
.XX ±.03
.XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

DWN JE DATE 12-3-79
CHK DATE
ENG Ron O DATE 12-5-79
MFG DATE

TITLE SCHEM, PCB DISPLAY 5835
CUST NCI
DWG NO 8402-00334 REV B
SCALE NONE
JOB NO 40-5747 SHT 1 OF 1

5835	7405-00334
USED ON	NEXT ASS'Y
APPLICATION	

9-78 TELEDYNE POST GLUTEX 66-726

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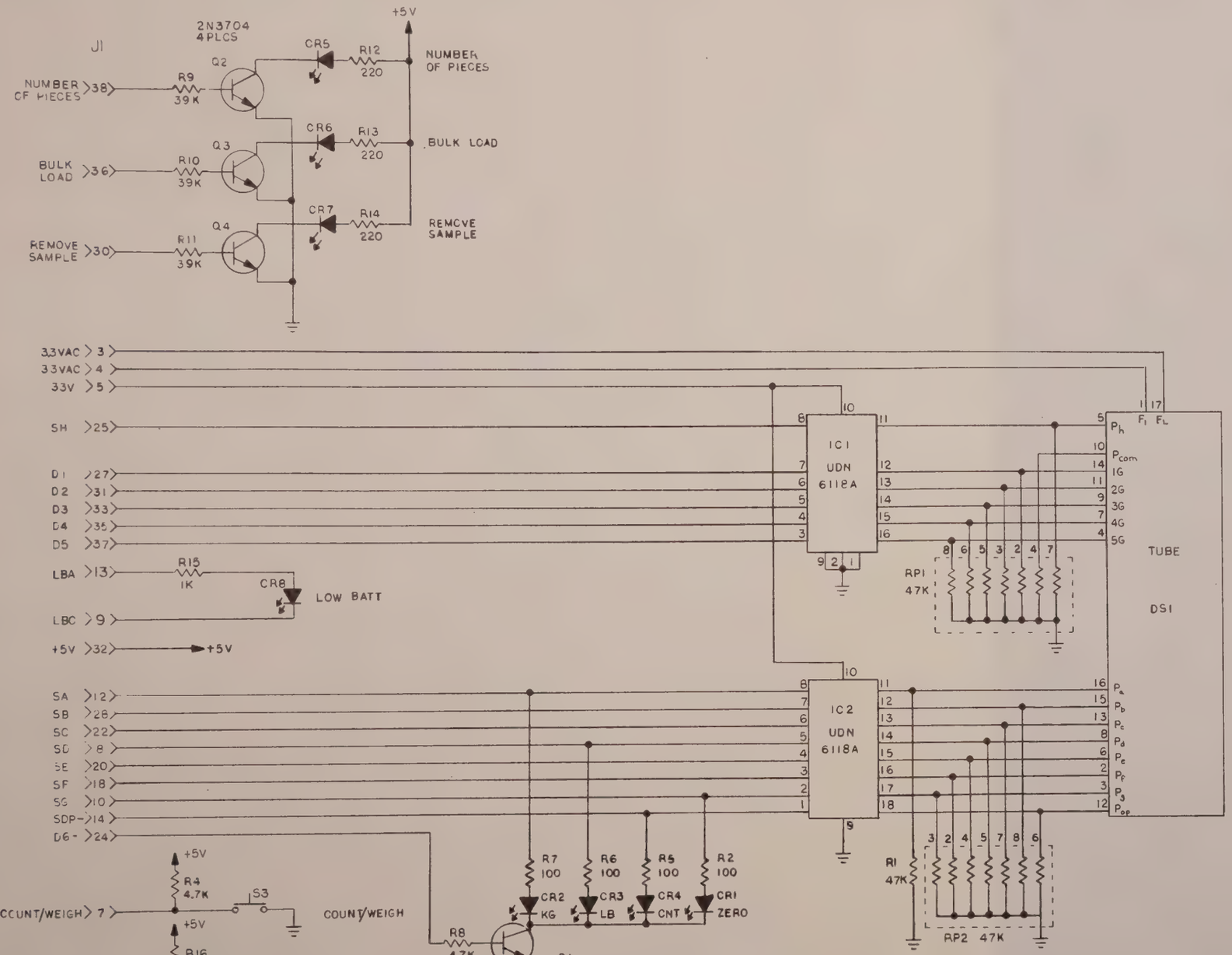
REVISIONS

LTR	DESCRIPTION	ECO	DWN	APVD	DATE
A	ORIG ISSUE		JM		



REF	NOT USED	LAST USED
CR		CR8
IC		IC2
R		R16
RP		RP2
S		S4
Q		Q4

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTOR VALUES ARE IN OHMS, 5%, 1/4W.
2. J1 PINS 1,2,6,11,16,19,26,29,34,39,40, &C TC GND.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L

BILL OF MATERIAL

MATERIAL

National Controls, Inc.
A subsidiary of
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ±.1
.XX ±.03
.XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

	DWN	DATE
	JM	2-6-80
CHK	RWW	4/1/80
ENG	RWW	4/1/80
MFG		DATE

TITLE: SCHEM., PCB, DISPLAY 5835W

CUST	DWG NO	REV
NCI	8402-00347	A
SCALE —	JOB NO 405876	SHT 1 OF 1

5835W	7405-00347
USED ON	NEXT ASS'Y
APPLICATION	

82

MODEL 5835 & 5835W ASSEMBLY PARTS LIST (REV D)

Note:

1	9511-00168	2 1b	Assembly 5835 W
2	9511-00169	10 1b	Assembly 5835 W
3	9511-00170	25 1b	Assembly 5835 W
4	9511-00163	25 1b	Assembly 5835
5	9511-00171	50 1b	Assembly 5835 W
6	9511-00164	50 1b	Assembly 5835
7	9511-00172	100 1b	Assembly 5835 W
8	9511-00165	100 1b	Assembly 5835

MODEL 5835 & 5835W ASSEMBLY PARTS LIST (REV D)

QTY	NCI P/N	DESCRIPTION	NOTE
1	7511-00005	ASSEMBLY, 5835W, 2-10 1b	1 2
1	7511-00003	ASSEMBLY, 5835W, 25,50,100 1b	3 5 7
1	7511-00002	ASSEMBLY, 5835	4 6 8
1	7200-00331	ASSY KIT, COMMPLETION, 2-10 1b	1 2
1	7200-00332	ASSY KIT, COMPLETION, 5835W	3 5 7
1	7200-00325	ASSY KIT, COMPLETION, 5835	4 6 8
1	7066-00381	ASSY LOAD CELL MOUNTING, 2 1b	1
1	7200-00327	ASSY LOAD CELL MOUNTING, 10 1b	2
1	7200-00326	ASSY LOAD CELL MOUNTING,	3 thru 8
1	7140-00415	ASSY LOAD CELL 2 1b	1
1	7140-00400	ASSY LOAD CELL 10 1b	2
1	7140-00401	ASSY LOAD CELL 25 1b	3 4
1	7140-00402	ASSY LOAD CELL 50 1b	5 6
1	7140-00403	ASSY LOAD CELL 100 1b	7 8
1	1070-01313	LABEL, CAPACITY, 2 1b, .8 kg	1
1	1070-01314	LABEL, CAPACITY, 10 1b, 4 kg	2
1	1070-01315	LABEL, CAPACITY, 25 1b, 10 kg	3
1	1070-01283	LABEL, CAPACITY, 25 1b	4
1	1070-01316	LABEL, CAPACITY, 50 1b, 20 kg	5
1	1070-01284	LABEL, CAPACITY, 50 1b	6
1	1070-01317	LABEL, CAPACITY, 100 1b, 40 kg	7
1	1070-01285	LABEL, CAPACITY, 100 1b	8
1	1150-00448	ROM, 5835, PØ, VØ1	all
1	1150-00449	ROM, 5835, P1, VØ1	all

MODEL 5835W COMPLETION KIT (2LB-10LB)
PARTS LIST
7200-00331

QTY	NCI P/N	DESCRIPTION
1	8424-00074	MANUAL OPERATOR'S
4	1006-02666	SCR SEMS #8-32 x 3/4
1	1069-00886	COVER DUST
1	1085-00100	WRENCH HEX
1	1070-01289	LABEL LINE V/FUSE 115 V
1	1069-01265	COVER COUNTING
1	1070-00789	LABEL MOD SER CAP
2	1041-00101	RIVET POP 3/32 x 3/8
	1070-01290	LABEL LINE V/FUSE 230 V

MODEL 5835W COMPLETION KIT (25LB-100LB)
PARTS LIST
7200-00332

QTY	NCI P/N	DESCRIPTION
1	1076-00171	(12 x 13.5 x 1") PLATTER
1	8424-00074	MANUAL OPERATOR'S
4	1006-02666	SCR SEMS #8-32 x 3/4
1	1069-00886	COVER DUST
1	1085-00100	WRENCH HEX
1	1070-01289	LABEL LINE V/FUSE 115 V
1	1069-01265	COVER COUNTING
1	1070-00789	LABEL MOD SER CAP
2	1041-00101	RIVET POP 3/32 x 3/8
	1070-01290	LABEL LINE V/FUSE 230 V

MODEL 5835 COMPLETION KIT
PARTS LIST
(7200-00325) REV B

QTY	NCI P/N	DESCRIPTION
1	1076-00171	(12 x 13.5 x 1") PLATTER
1	8424-00067	MANUAL OPERATORS
4	1006-02666	SCR SEMS #8-32 x 3/4
1	1069-00886	COVER DUST
1	1085-00100	WRENCH HEX
1	1070-01289	LABEL LINE V/FUSE 115 V
1	1069-01265	COVER COUNTING
1	1070-00789	LABEL MOD SER CAP
2	1041-00101	RIVET POP 3/32 x 3/8
	1070-01290	LABEL LINE V/FUSE 230 V

MODEL 5835/5835W PRINTED MATERIALS KIT
(7427-00012) REV A

QTY	NCI P/N	DESCRIPTION
1	1700-00002	ENVELOPE, PRINTED
1	1427-00001	CARD, WARRANTY
1	8424-00074	INSTALLATION MANUAL

MODEL 5835 SPANISH OPTION KIT
(7200-00329) REV A

QTY	NCI P/N	DESCRIPTION
1	1070-01297	SPANISH FRONT PANEL

APPLICATION		REVISIONS					
USED ON	NEXT ASS'Y	LTR	DESCRIPTION	ECO	DWN	APVD	DATE
5835	———	A	PROD RELEASE	—	J.E.	JM	1-22-80
5835W	———	B	ADDED 5835W ASSY NOS	1296	M.O.	RWH	6/24/80

ASSY INSTRUCTIONS:

1. REMOVE ITEM 6 OF ASSY 7200-00325, 7200-00331 OR 7200-00332.
   REPLACE WITH ITEM 1 OF THIS ASSY.

2. REMOVE ITEM 40 OF ASSY 7511-00002, 7511-00003 OR 7511-00005.
   REPLACE WITH ITEM 2 OF THIS ASSY,

3. REMOVE ITEM 6 OF ASSY 7511-00002, 7511-00003 OR 7511-00005.
   REPLACE WITH ITEM 3 OF THIS ASSY.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
3	1	7140-00329	ASSY,CA.,JUMPER,240V
2	1	1134-00171	FUSE,.15A S.B.,240V
1	1	1070-01290	LABEL,LINE V/FUSE,240V

BILL OF MATERIAL

MATERIAL ———

National Controls, Inc.
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SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ± .1
.XX ± .03
.XXX ± .010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

DWN	DATE
EVANS	1-15-80
CHK	DATE
[illegible]	1-21-80
ENG	DATE
[illegible]	[illegible]
MFG	DATE
JM Mains	1-22-80

TITLE: ASSY KIT 240V OPTION 5835, 5835W

CUST	DWG NO	REV
NCI	7300-00567	B
SCALE ———	JOB NO 5747	SHT 1 OF 1

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APPLICATION		REVISIONS					
USED ON	NEXT ASS'Y	LTR	DESCRIPTION	ECO	DWN	APVD	DATE
5835	——	B	PROD RELEASE	—	J.E.	JM	1-22-80

ASSY INSTRUCTIONS:

1. REMOVE ITEMS 23,31,35 OF ASSY: 7511-00002 REPLACE WITH ITEMS 1-9 OF THIS ASSY.

ITEM	QTY	PART NO	DESCRIPTION / MAT'L
9	1	1028-00128	WASHER INT TOOTH
8	1	1025-00114	NUT HX KEP 6-32
7	1	1069-00943	5800 I/O COVER
6	2	1025-00107	KEPNUT 4-40
5	2	1001-02558	PHL-PAN 4-40X.62
4	1	7140-00397	ASSY CA PRINTER
3	1	1074-00198	CA.TY.PNDT SSTIMMP
2	1	1073-00116	LATCH SPRING
1	1	1073-00117	LATCH, END DISC

BILL OF MATERIAL

MATERIAL ——

National Controls, Inc.
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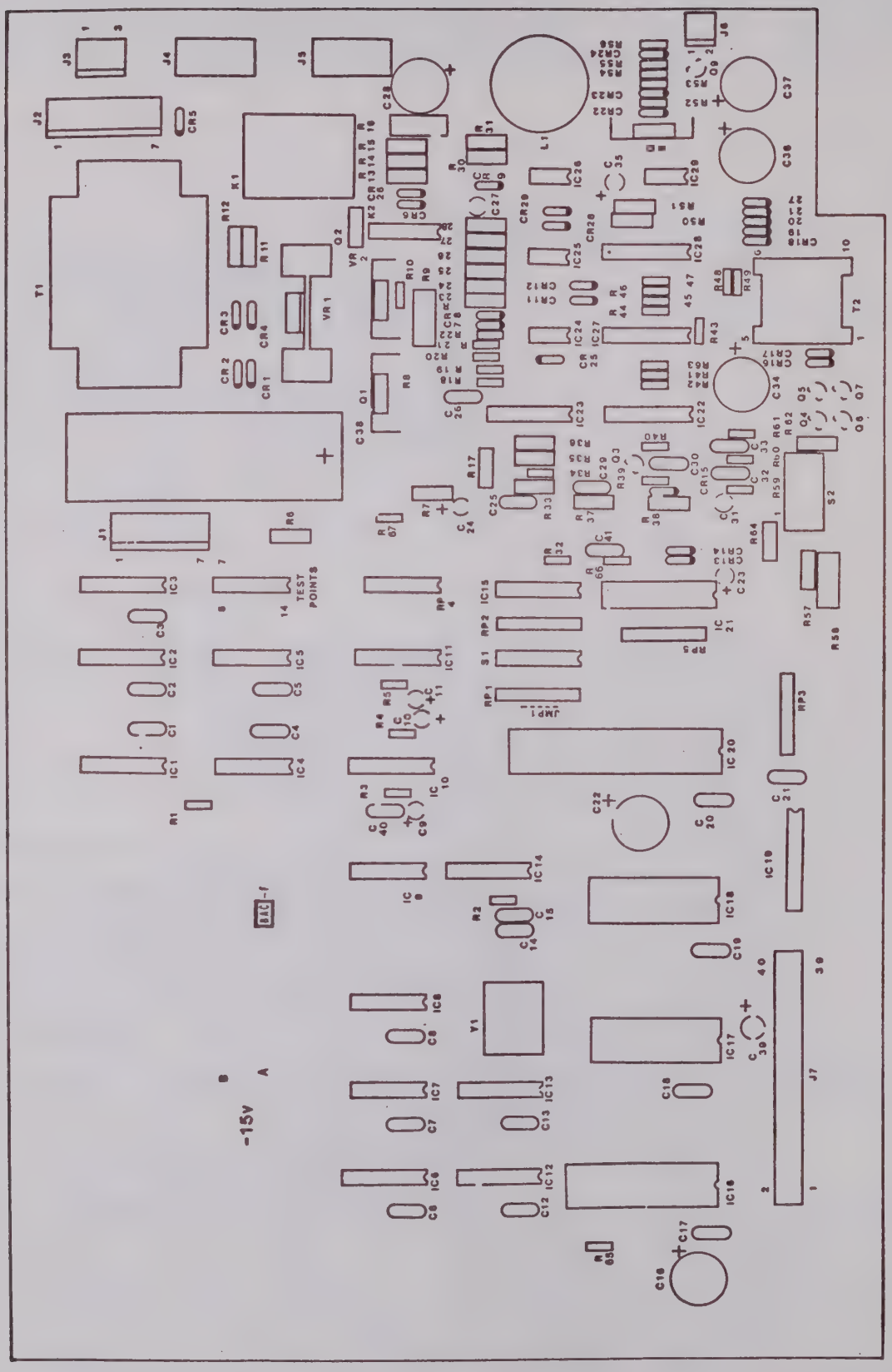
SCOPE Incorporated

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN INCHES
.X ±.1
.XX ±.03
.XXX ±.010
FRACTIONS ±
ANGLES ±
MACH FINISH ✓

DWN EVANS	DATE 1-15-80	TITLE ASSY KIT CABLE HDW A/D PRINTER OPTION
CHK [illegible]	DATE 1-21-80	
ENG [illegible]	DATE 1-22-80	CUST NCI
MFG [illegible]	DATE 1-22-80	DWG NO 7200-00328 REV B
		SCALE —— JOB NO 5747 SHT 1 OF 1



DC & P/S BOARD COMPONENT DIAGRAM
7405-00333

DIGITAL CONTROL & POWER SUPPLY BOARD
PARTS LIST
(7405-00333) REV F

QTY	NCI P/N	DESCRIPTION	REF DESIG
4	1002-01395	SCR, PHL PAN, #6-32 x .38	(T1)
1	1001-02564	SCR, PHL PAN, #4-40 x .88	(L1)
2	1009-00100	SCR, THRD CTTG TYPEF, #4-40 x .38 SST	(VR1)
1	1001-02804	SCR MCH PHL RND #4-40 x .25	(VR1)
4	1020-00122	NUT KEP #6-32 CAD	(T1)
2	1025-00107	NUT KEP, #4-40, CAD	(L1, VR1)
4	1044-00238	STAND-OFF, SWAGE, #6-32X 1/4	
1	1067-00918	BRKT XFMR SIGNAL 24-BR	T1
	1138-00267	THERMAL JOINT COMPOUND	(VR1)
1	1143-00366	TERM BIFURCATED USECO 7041-B7	
	1045-00149	ADHESIVE, RTV 108, CLEAR	C28,37,38
1	1124-00114	CRYSTAL 3.579 MHz	Y1
1	1103-00163	CAP, 10 uf, 20 V	C23
1	1104-00275	CAP, 0.22 uf, 50 V	C29
1	1103-00100	CAP, .82 uf, 35 V, TANT	C9
2	1103-00107	CAP, 1 uf, 35 V, TANT	C11,C43
3	1103-00135	CAP, 2.2 uf, 35 V, TANT	C27,31,35
3	1103-00170	CAP, 10 uf, 25 V, TANT	C10,24,39
1	1103-00251	CAP, 100 uf, 50 V, ALUM	C37
5	1103-00269	CAP, 150 uf, 15 V, ALUM	C16,22,28, 34,36
1	1103-00318	CAP, 3300 uf, 40 V, ALUM	C38
18	1104-00240	CAP, 0.1 uf, 16 V, DISC	C1-8,12,13, 17-19,21,20, 25,40,44
1	1104-00177	CAP, 1000 pf, 1000V, DISC	C30
2	1104-00135	CAP, 100 pf, 1000V, DISC	C14,15
2	1104-00142	CAP, 150 pf, 100 V, DISC	C32,C33
1	1102-00107	CAP, .01 uf 50 V	C26
1	1104-00162	CAP, 500 pf, 1000V, DISC	C42

DIGITAL CONTROL & POWER SUPPLY BOARD
PARTS LIST (CONTINUED)
(7405-00333)

QTY	NCI P/N	DESCRIPTION	REF DESIG
1	1104-00121	CAP, 47 pf, 1000V DISC	C41
1	1161-00153	CONN, 6 PIN MOLEX RCPT	J1
1	1161-00155	CONN, 7 PIN MOLEX RCPT	J2
1	1161-00142	CONN, 3 PIN MOLEX RCPT	J3
1	1160-00286	CONN HEADER 40 M HEADER STR	J7
2	1161-00116	CONN, 3 PIN AMP RCPT	J5,J4
1	1161-00141	CONN, 2 PIN MOLEX RCPT	J6
10	1115-00142	DIODE 1N4148	CR5-8,15, 24,25,27, 28,29
3	1115-00115	DIODE 1N4933	CR16,17,22
15	1115-00135	DIODE 1N4005	CR1-4,9,11-14, 18-21,23,26
1	1138-00281	HEAT SINK CLIP ON TO - 220	VR2
1	1138-00257	HEAT SINK POWER TO - 220	VR1
1	1121-00179	IC, + VR, ADJ OUT, 317	VR1
1	1121-00283	IC, + VR, 5V, 340-5, TO - 220	VR2
1	1121-00375	IC, VR, SW, 3524	IC23
2	1120-00301	IC, XSTR ARRAY, 3081	IC11,27
1	1121-00239	IC, TIMER, CMOS, 7555	IC29
3	1121-00097	IC 358, DUAL OP-AMP	IC24,25,26
1	1122-00449	IC, DUAL D FF, 74LS74	IC8
1	1122-00508	IC, LATCH, 74LS377	IC19
1	1122-00664	IC, DSPL CONT, 74C912	IC16
1	1122-00509	IC, QUAD 2 - IN NOR, 400IB	IC4
1	1122-00511	IC, QUAD 2 - IN NAND, 4011	IC5
2	1122-00522	IC, SFT RGSTR, 4021	IC12,13
1	1122-00523	IC, TPL - IN NAND, 4023B	IC9
1	1122-00524	IC, COUNTER, 4024	IC7
3	1122-00534	IC, DUAL J-K FF, 4027A	IC2,3,22

DIGITAL CONTROL & POWER SUPPLY BOARD
PARTS LIST (CONTINUED)
(7405-00333)

QTY	NCI P/N	DESCRIPTION	REF DESIG
2	1122-00835	IC, COUNTER, 4040	IC6,28
2	1122-00541	IC, HCX, BFR/INVT. 4049B	IC1,14
1	1122-00838	IC, DATA SELECT, 4512B	IC15
1	1122-00839	IC, DUAL MONO MV, 4538B	IC10
1	1122-60030	IC, RAM, CMOS, 5101L	IC21
1	1122-00856	IC, MICROPROCESSOR, 8035L	IC20
	1150-00448	ROM 5835 PØ, VØ1	IC17
	1150-00449	ROM 5835 P1, VØ1	IC18
1	1107-00112	INDUCTOR 1 MH CUSTOM	L1
1	1132-00155	RELAY, DPDT, 2 A, 12 V	K1
1	1132-00165	RELAY, SPST, 0.5A, 12 V	K2
1	1108-00138	RSTR 75 OHM 1% RN60C	R26
1	1108-00217	RSTR 499 OHM 1% RN60C	R11
1	1108-00298	RSTR 3.48 K 1% RN60C	R13
1	1108-00310	RSTR 4.64 K 1% RN60C	R12
1	1108-00313	RSTR 4.99 K 1% RN60C	R27
1	1108-00333	RSTR 8.06 K 1% RN60C	R25
1	1108-00338	RSTR 9.09 K 1% RN60C	R62
1	1108-00246	RSTR 1 K 1% RN60C	R10
4	1108-00342	RSTR 10.0 K 1% RN60C	R23,31,35, 36
1	1108-00365	RSTR 17.4 K 1% RN60C	R14
2	1108-00368	RSTR 18.7 K 1% RN60C	R28,R38
1	1108-00371	RSTR 20.0 K 1% RN60C	R37
1	1108-00377	RSTR 23.2 K 1% RN60C	R21
1	1108-00207	RSTR 392 OHM 1% RN60C	R15
1	1108-00439	RSTR 100 K 1% RN60C	R20
1	1108-00284	RSTR 2.49 K 1% RN60C	R18
1	1108-00488	RSTR 324 K 1% RN60C	R51
1	1108-00433	RSTR 560 OHM 1W 10%	R58

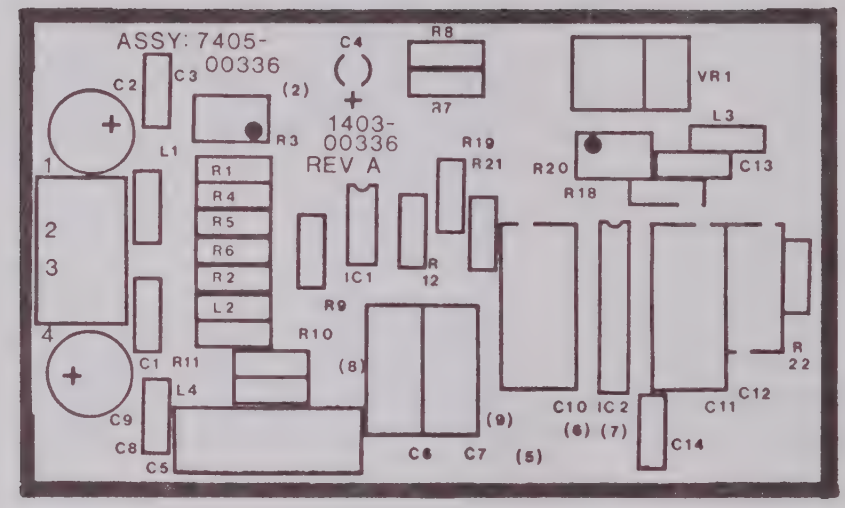
DIGITAL CONTROL & POWER SUPPLY BOARD
PARTS LIST (CONTINUED)
(7405-00333)

QTY	NCI P/N	DESCRIPTION	REF DESIG
1	1111-00313	RSTR 100 OHM, 1/2W	R57
2	1111-00234	RSTR 1M 5% 1/4W	R7,24
1	1110-00080	RSTR 0.10 OHM W.W 1W 10%	R16
1	1110-00268	RSTR 15 OHM W.W 5W	R9
1	1111-00142	RSTR 150 OHM 5% 1/4W	R5
1	1111-00329	RSTR 270 OHM 5% 1/2W	R6
3	1111-00154	RSTR 470 OHM 5% 1/4W	R34,41,42
2	1111-00158	RSTR 680 OHM 5% 1/4W	R8,54
4	1111-00162	RSTR 1.0 K 5% 1/4W	R44,45, 55,63
2	1111-00180	RSTR 5.6 K 5% 1/4W	R66,67
2	1111-00159	RSTR 750 OHM 5% 1/4W	R46,47
4	1111-00170	RSTR 2.2 K 5% 1/4W	R48,49, 60,61
1	1111-00172	RSTR 2.7 K 5% 1/4W	R56
3	1111-00178	RSTR 4.7 K 5% 1/4W	R39,68,69
5	1111-00186	RSTR 10 K 5% 1/4W	R22,43,30, 59,50
1	1111-00190	RSTR 15 K 5% 1/4W	R1
1	1111-00196	RSTR 27 K 5% 1/4W	R19
1	1111-00202	RSTR 47 K 5% 1/4W	R40
1	1111-00204	RSTR 56 K 5% 1/4W	R32
1	1111-00209	RSTR 91 K 5% 1/4W	R53
2	1111-00214	RSTR 150 K 5% 1/4W	R3,52
1	1111-00218	RSTR 220 K 5% 1/4W	R65
1	1108-00491	RSTR 348 K 1% RN60C	R33
1	1111-00230	RSTR 680 K 5% 1/4W	R4
1	1111-00242	RSTR 2.2 M 5% 1/4W	R2
1	1112-00107	RSTR NTWK, 4.7K, 7 RES, SIP	RP1
2	1112-00122	RSTR NTWK, 15 K, 7 RES, SIP	RP2,3
1	1112-00108	RSTR NTWK, 4.7K, 7 RES, DIP	RP4

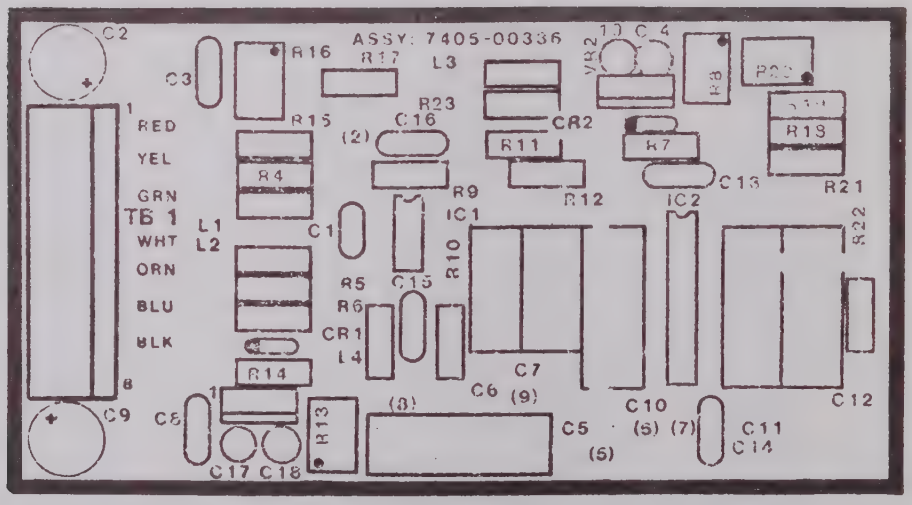
DIGITAL CONTROL & POWER SUPPLY BOARD
PARTS LIST (CONTINUED)
(7405-00333)

QTY	NCI P/N	DESCRIPTION	REF DESIG
2	1113-00311	TRIMMER 5 K TOP PC1/2W	R17,R64
1	1142-00273	SKT, DIL, 14 PIN	X TP
1	1142-00274	SKT, DIP, 22 PIN	XIC21
2	1142-00235	SKT, DIP, 24 PIN	XIC,17,18
1	1142-00238	SKT, DIP, 40 PIN	XIC,20
8	1142-00435	SKT, SPRINT, AMP 1-3807580	
1	1127-00187	SW, DPDT, 2 POS PC MT	S2
1	1130-00123	SW, DIP, 8 POSITION	S1
1	1117-00205	XSTR 2N4921	Q8
2	1117-00275	XSTR 2N5550	Q5,7
2	1117-00198	XSTR 2N4918	Q1,2
4	1117-00156	XSTR 2N3704	Q3,4,6,9
1	1106-00193	XFMR, 34 V CT, 0.7A, SIGNAL	T1
1	1106-00232	XFMR, CUSTOM 5835	T2

REV A



REV B



A/D CONVERTER BOARD COMPONENT DIAGRAM
7405-00336

ANALOG AND A/D CONVERTOR BOARD
PARTS LIST
(7405-00336) REV A

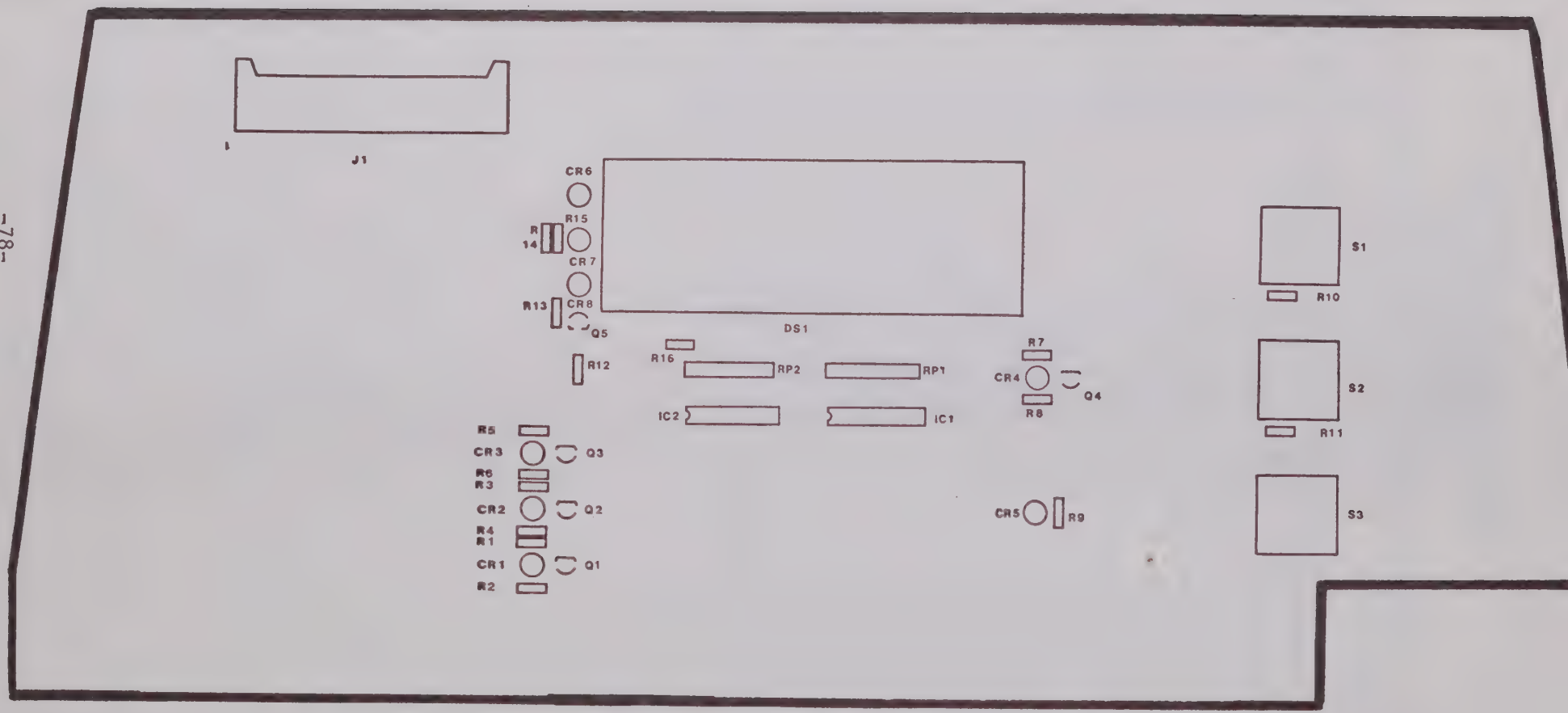
QTY	NCI P/N	DESCRIPTION	REF DESIG
1	1102-00100	CAP, 390 pf, SILVER MICA	C1
3	1102-00149	CAP, 0.47 pf, 100 V PCARB	C6,7,12
2	1102-00163	CAP, 1.0 uf, 100 V PCARG	C10,11
1	1102-00167	CAP, 2.2 uf. 100 V PESTER	C5
1	1103-00170	CAP, 10 uf, 23 V TANT	C4
2	1103-00269	CAP, 100 uf, 50 V ALUM	C2,9
4	1104-00205	CAP, CER 0.01 uf 100 V DISC	C3,8,13,14
1	1121-00160	IC OP AMP OP07C	IC1
1	1121-00179	IC VR ADJ OUT 317TO220	VR1
1	1123-00105	A-D CONVERTER, TL 500CN	IC2
4	1107-00110	INDUCTOR, 100 uh, 100 ma	L1,2,3,4
1	1108-00188	RSTR, 249 OHM, 1%, RN60C	R7
1	1108-00146	RSTR, 1.00 K RN60C	R21
1	1108-00263	RSTR, 1.5 K 1% RN60C	R8
2	1108-00275	RSTR, 2.00 K 1% RN60C	R4,5
1	1108-00342	RSTR, 10 K 1% RN60C	R19
1	1108-00376	RSTR, 22.6 K 1% RN60C	R10
1	1108-00407	RSTR, 47.5 K 1% RN60C	R11
1	1108-00409	RSTR, 49.9 K 1% RN60C	R22
1	1108-00439	RSTR, 100 K 1% RN60C	R2
1	1108-00456	RSTR, 150 K 1% RN60C	R12
1	1108-00472	RSTR, 221 K 1% RN60C	R18
2	1108-00481	RSTR 274 K 1% RN60C	R6,9
1	1108-00510	RSTR, 549 K 1% RN60C	R1
1	1113-00255	TRIMMER 2K TOP PC	R20
1	1113-00513	TRIMMER 1M TOP PC	R3
1	1143-00103	TERM STRIP 4	TB1
7	1143-00381	TERM PRESS-IN	CONCORD

ANALOG AND A/D CONVERTER BOARD
PARTS LIST
(7405-00336) REV E
BOARDS MARKED REV B

QTY	NCI P/N	DESCRIPTION	REF DESIG
1	1102-00100	CAP, 390 pf, SILVER MICA	C1
2	1102-00149	CAP 0.47 uf 100V PRARB	C6,7
2	1102-00163	CAP 1.0 uf 100V PCARB	C10,11
1	1102-00167	CAP 2.2 uf 100V PESTER	C5
2	1103-00170	CAP 10 uf 25V TANT	C4,18
2	1103-00269	CAP 150 uf 15V ALUM	C2,9
1	1102-00135	CAP .22 uf 150V 10% PPROP	C12
2	1103-00107	CAP 1.0 uf 35V TANT	C17,19
6	1104-00240	CAP CER 0.1 uf 25V DISC	C3,8,13,14,15,16
1	1121-00090	IC, OP AMP OP07C LNLD	IC1
1	1121-00179	IC, VR ADJ OUT 317 TO 220	VR2
1	1121-00225	IC, LM337 TO220	VR1
1	1123-00105	A-D CONV, TL 500CN100MA	IC2
2	1107-00110	INDUCTOR, 100 uH, 100MA	L3,4
2	1107-00100	INDUCTOR, 8.2 uH, 100MA	L1,2
2	1108-00188	RSTR, 249 ohm, 1%, RN60C	R7,14
1	1108-00246	RSTR, 1.00K, 1%, RN60C	R21

ANALOG AND A/D CONVERTER BOARD
PARTS LIST
(7405-00336) REV E
BOARDS MARKED REV B

QTY	NCI P/N	DESCRIPTION	REF DESIG
3	1108-00275	RSTR 2.00K 1% RN60C	R4,5,23
1	1108-00342	RSTR 10K	R19
1	1108-00376	RSTR 22.6K	R10
1	1108-00407	RSTR 47.5K	R11
1	1108-00417	RSTR 60.4K	R22
1	1108-00456	RSTR 150K	R12
1	1108-00472	RSTR 221K	R18
2	1108-00481	RSTR 274K	R6,9
1	1108-00557	RSTR 1.69M	R15
1	1111-00095	ZERO OHM JUMPER	R17
1	1113-00243	TRIMMER, 1K TOP PC	R20
3	1113-00255	TRIMMER, 2K TOP PC	R8,13,16
1	1143-00104	TERM STRIP, 8 PT	TB1
6	1143-00381	TERM PRESS-IN	
2	1115-00135	DIODE, IN4005	CR1,2

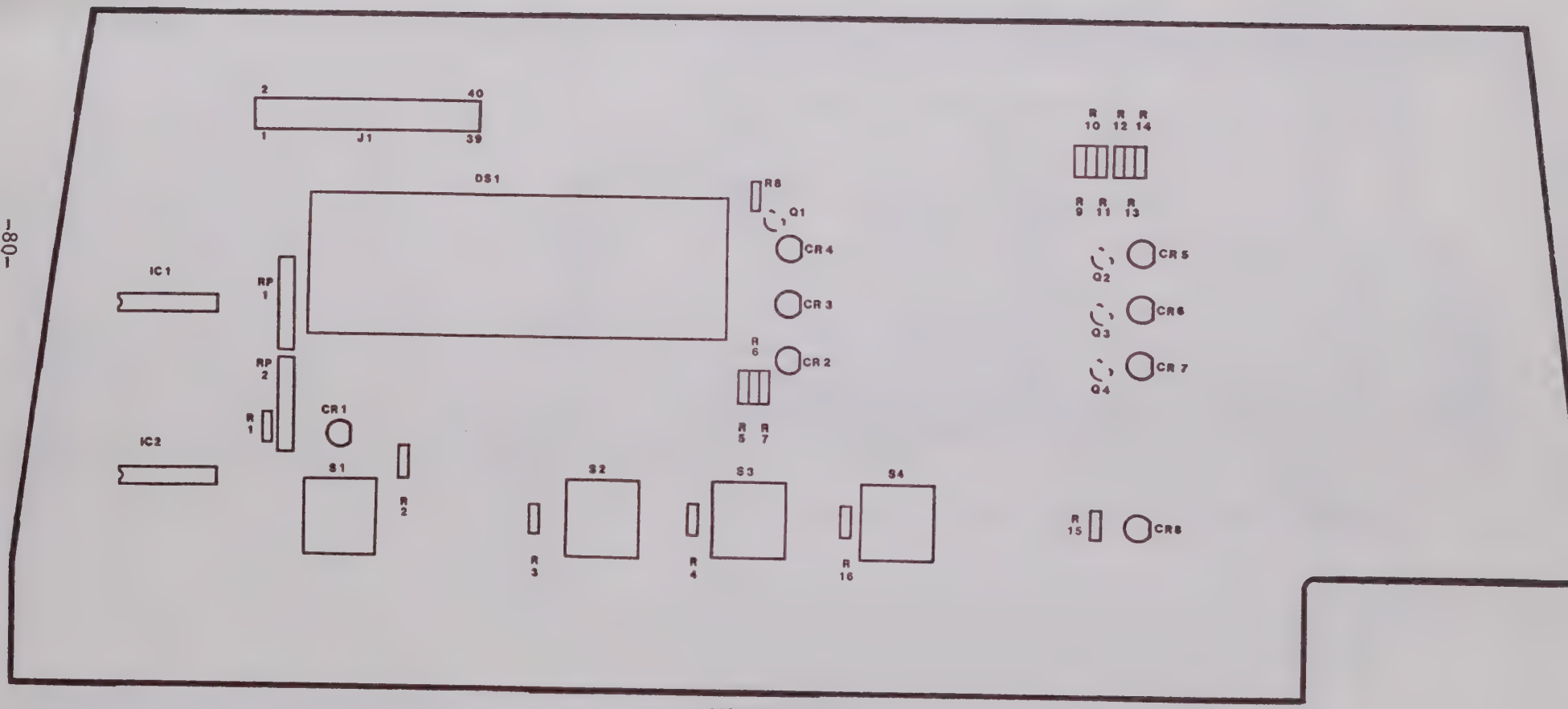


1403-00334 B

DISPLAY BOARD COMPONENT DIAGRAM
7405-00334

DISPLAY BOARD
PARTS LIST
(7405-00334) REV C

QTY	NCI P/N	DESCRIPTION	REF DESIG
5	1043-00305	SPACER, LED .150 LONG	USED ON CR1,3,5,7,2
	1045-00203	ADH FOAM PVC 2-SIDE	
1	1111-00138	RSTR, 100 OHM 1/4W 5%	R15
3	1111-00178	RSTR, 4.7 K 1/4W 5%	R10,11,12
3	1111-00200	RSTR, 39 K 1/4W 5%	R1,3,5
1	1111-00202	RSTR, 47 K 1/4W 5%	R16
2	1112-00128	RSTR NTWK 47K RES SIP	RP1,RP2
3	1111-00146	RSTR 220 OHM 1/4W 5%	R2,4,6
5	1117-00156	XSTR 2N3704	Q1-5
2	1120-00151	IC, BUFFER, UDN6118A	IC1,IC2
3	1131-00114	SW, PB, SPST, GRAYHILL	S1-S3
5	1145-00114	LED ORANGE	CR1-3,5,7
1	1145-00299	DISPLAY TUBE NEC	DS1
1	1160-00285	CONN HDR, 40 M RA	J1
1	1111-00162	RSTR 1K 1/4W 5%	R9



MODEL 5835W DISPLAY BOARD COMPONENT DIAGRAM
7405-00347

DISPLAY BOARD MODEL 5835W
PARTS LIST
(7405-00347) REV B

QTY	NCI P/N	DESCRIPTION	REF DESIG
8	1043-00305	SPACER LED .150 LONG	CR1-8
	1045-00203	ADH FOAM PVC 2-SIDE	
1	1160-00285	CONN HDR, 40M, RA	J1
1	1145-00299	DISPLAY TUBE NEC	D51
2	1120-00151	IC, BUFFER, UDNG6118A	IC1,IC2
8	1145-00114	LED ORANGE	CR1-8
1	1111-00162	RSTR, 1K 1/4W 5%	R15
4	1111-00138	RSTR, 100 OHM 1/4W 5%	R2,5,6,7
4	1111-00178	RSTR, 4.7K 1/4W 5%	R3,4,8,16
3	1111-00200	RSTR, 39K 1/4W 5%	R9,10,11
1	1111-00202	RSTR, 47K 1/4W 5%	R1
2	1112-00128	RSTR, NTWK 47K RES SIP	RR1,RP2
3	1111-00146	RSTR, 220 OHM 1/4W 5%	R12,13,14
4	1131-00114	SW, PB, SPST, GRAYHILL	S1,S4
4	1117-00156	XSTR 2N3704	Q1-4